



Alcatel-Lucent OmniPCX Office Communication Server

Compact Edition, Advanced Edition, Premium Edition

Installation Manual

Release 7.0 - April 2008



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- 89/336/CEE (concerning electro-magnetic compatibility)
- 73/23/CEE (concerning electrical safety)
- 1999/5/CE (R&TTE)



Installation Manual

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1.1 Preliminary

1.1.1 Overview

1.1.1.1 *SYMBOLS USED IN THE DOCUMENTATION*



See note.



See important information.

1.1.1.2 *CLAUSES*

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1.2 Security

1.2.1 Safety rules

1.2.1.1 *SAFETY DECLARATION*

We, Alcatel-Lucent Enterprise 32, avenue Kléber 92707 Colombes Cedex - France, declare that the products presented in this manual conform to the essential requirements of Directive 1999/CE/5 of the European Parliament and Council.

Any unauthorized modification to the products invalidates this declaration of conformance.

In pursuance of this directive which appeared in the Official Journal of the European Community on April 7 1999, this equipment can be used in all European Community member states, and in Switzerland and Norway.



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1.2.1.2 *GENERAL RECOMMENDATIONS*

Protective earthing



This equipment must imperatively be connected to a permanent earth protection installed according to current legislation.

Installation of the mains power

The mains power must be installed as close as possible to the unit and must be easily accessible. The power supply lead is used as the master switch.

Free board slots



It is essential that empty board slots are guarded with the appropriate expansion slot covers for full electromagnetic shielding, the safety of people working nearby (in the presence of hazardous voltages) and the prevention of fire propagation (from inside the unit).

Lead and Lithium batteries



There is a risk of explosion if the batteries are incorrectly replaced. Only use batteries of identical type, or manufacturer recommended equivalents. Discard used batteries according to the battery manufacturer's instructions.

Power supply



Due to the presence of hazardous voltages, the rear metal panel can only be removed by qualified personnel.

If it is necessary to carry out work on a power supply unit, first disconnect the mains cable from the system as well as any external EPS48 power connections that may be connected. Then remove the rear metal panel of the power supply block and disconnect the batteries.

High leakage current



A permanent earth connection is essential before making TRT/TNV-3 telecommunication network connections.

In the case of a poor earth connection, it is **MANDATORY** to disconnect the telecommunications accesses before reconnecting the equipment to earth. It is then necessary to verify that all the connections have been made correctly.



Before removing any board that provides access to a telecommunications network of class TRT/TNV-3, make sure you disconnect the links. Reconnect the links once the board is re-inserted.

Installation of DECT bases

For further information on recommendations relating to the exposure of the public to the electromagnetic field, refer to "Installation of DECT bases".

1.2.1.3 DECLARATION OF CONFORMANCE WITH DIRECTIVES

This equipment is designed to be connected to the public telephone network using the appropriate interfaces.

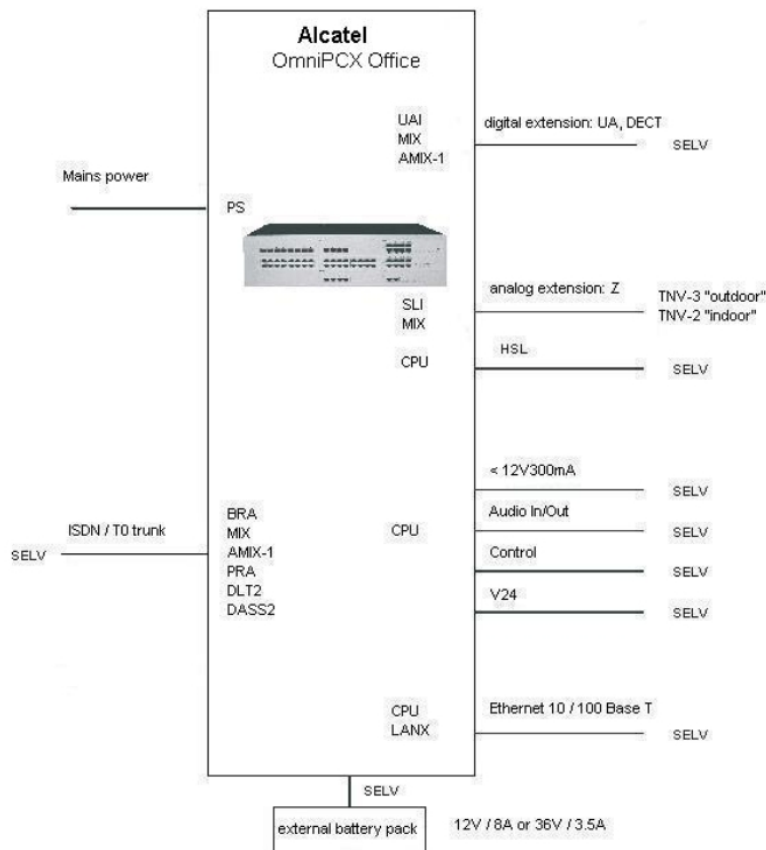
The EC labeling indicates that this product conforms to the EC directives currently in force, in particular:

- 89/336/EEC (Electromagnetic compatibility)
- 73/23/EEC (Low Voltage)
- R&TTE 1999/5/EC compliance
- 1999/519/EC (Specific Absorption Rate)

1.2.1.4 INTERFACE CLASSIFICATION

1.2.1.4.1 Alcatel-Lucent OmniPCX Office Communication Server

SELV: Safety Extra Low Voltage TNV-3: Telecommunication Network Voltage



1.2.1.4.2 Alcatel-Lucent OmniPCX Office Compact Edition

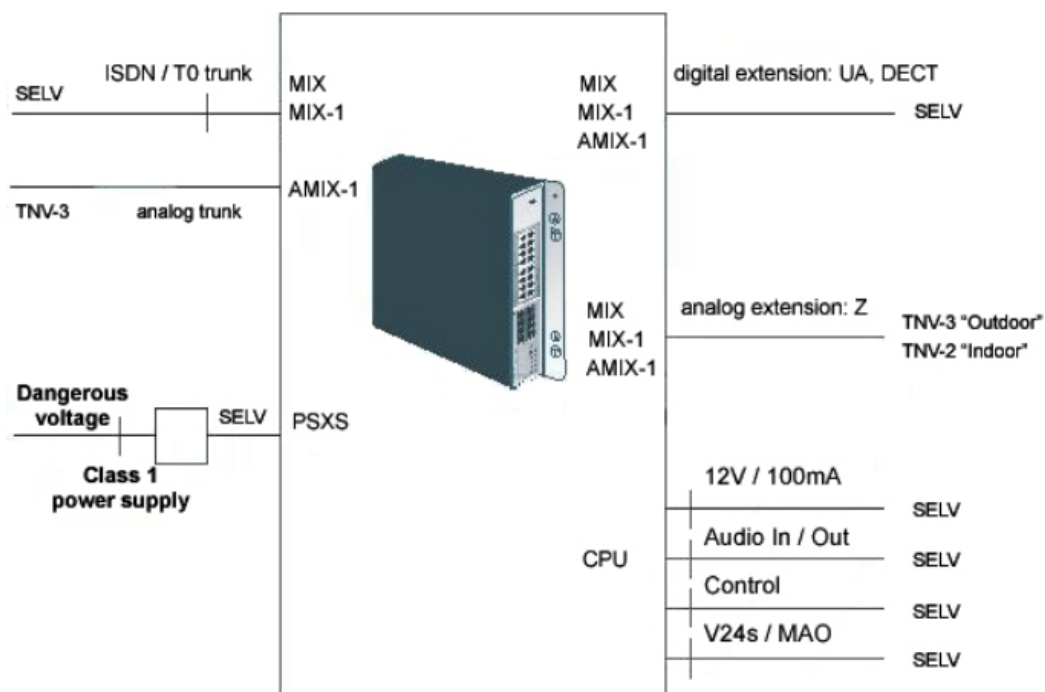


Figure 1.3: First Generation cabinet

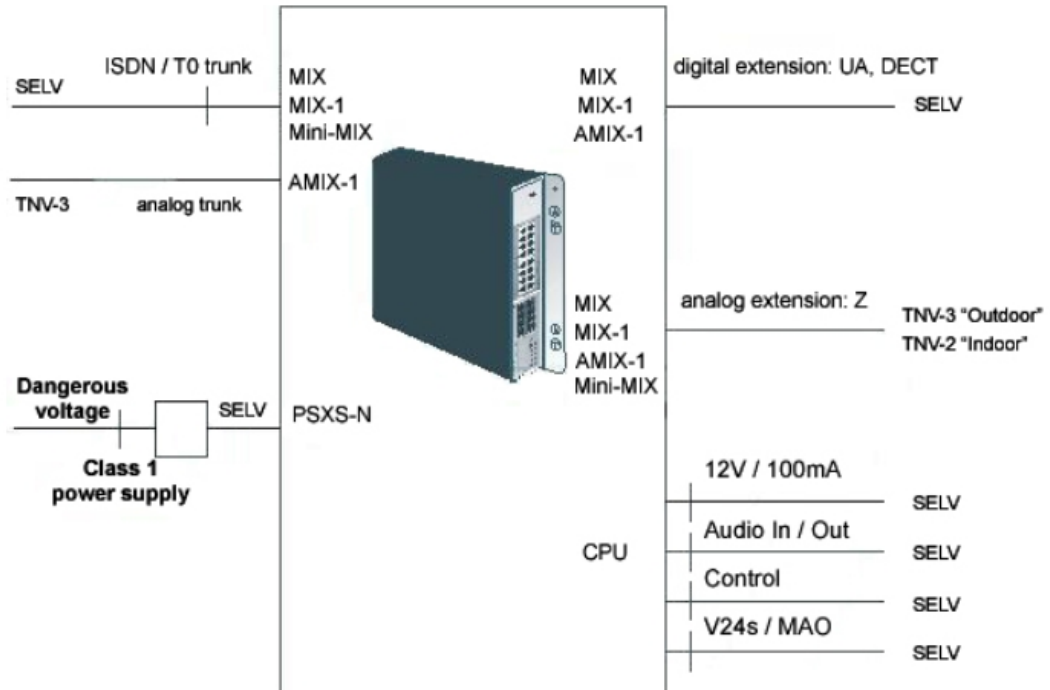


Figure 1.4: Second Generation cabinet

Note:

The Mini-MIX daughter board can be used only on a Compact Edition 2nd Generation with a CPU-3m or a CPU-4.

2.1 Overview

Alcatel-Lucent OmniPCX Office Communication Server is an "e-communication server", a new "all-in-one" concept combining proven telephony functions with data management and access to all the resources of the Internet. This "multi-purpose" server provides a turnkey global communication solution for small and medium-scale businesses with 6 to 200 employees.

For businesses with 6 to 12 employees, the Alcatel-Lucent OmniPCX Office Communication Server range has been expanded to include the Alcatel-Lucent OmniPCX Office Compact Edition module. Only the Alcatel-Lucent OmniPCX Office Advanced Edition CS offer is available (Alcatel-Lucent OmniPCX Office Advanced Edition CS voice functions, a professional solution with welcome, mobility, CTI and VoIP functions).

2.1.1 INSTALLING THE HARDWARE

The Alcatel-Lucent OmniPCX Office Communication Server range is supplied:

- with all the sub-assemblies required for your particular configuration,
- configured with the software key corresponding to the level of services desired (according to country).

The stations are packaged separately.

2.2 Racks

2.2.1 Detailed description

Alcatel-Lucent OmniPCX Office Communication Server is available in the following models:

2.2.1.1 Rack 1 or S or SMALL



- 28 ports.
- 1 CPU slot 2 general-purpose slots (no SLI16 board).
- Energy consumption: 1 A (230 V) / 2 A (110 V) - 80 W.
- Dimension: H = 66 mm; W = 442 mm; D = 400 mm.
- Weight: 6 kg.

2.2.1.2 Rack 2 or M or MEDIUM



- 56 ports.
- 1 CPU slot 5 general-purpose slots.
- Energy consumption: 1,2 A (230 V) / 2,3 A (110 V) - 120 W.
- Dimension: H = 110 mm; W = 442 mm; D = 400 mm.
- Weight: 11 kg.

2.2.1.3 *Rack 3 or L or LARGE*



- 96 ports.
- 1 CPU slot + 4 general-purpose slots + 4 specific slots (no UAI16 and MIX boards)
- Energy consumption: 1,2 A (230 V) / 2,3 A (110 V) - 150 W.
- Dimension: H = 154 mm; W = 442 mm; D = 400 mm.
- Weight: 13 kg.

2.2.1.4 *CE or Alcatel-Lucent OmniPCX Office Compact Edition*



- 14 ports.
- 1 CPU slot + 1 MIX slot
- Energy consumption: 1.5 A (240 V)
- Dimension: H = 345 mm; W = 370 mm; D = 65 mm.
- Weight: 5.1 kg.

The following mixed boards are available:

- MIX 2/4/4
- MIX 2/4/8
- MIX 2/8/4
- MIX 4/4/8
- MIX 4/8/4
- AMIX-1 4/4/4
- AMIX-1 4/4/8
- AMIX-1 4/8/4

2.2.1.5 Compact Edition 2nd Generation

Note 1:

*This wall-mounted version is also called **XS-N**.*

The Compact Edition 2nd Generation is an evolution of the current Alcatel-Lucent OmniPCX Office Compact Edition platform. It is distinguished by the Mini-MIX daughter board which provides two additional analog Z accesses (SLI Analog Extension Access) and two additional ISDN / T0 accesses (ISDN Basic Rate Access).

Starting with Alcatel-Lucent OmniPCX Office Communication Server release 5.1, the Mini-MIX daughter board is available on Compact Edition 2nd Generation with a CPU-3m or a CPU-4 (ASPEN 133 MHZ and 128MB of flash). The CPU-3m (or CPU-4) provides the necessary 100V to the CPU slot.

The CPU-3m (or CPU-4) shows a Mini-MIX LED (previously the WAN LED). This LED is activated when the Mini-MIX daughter board is detected in a Compact Edition 2nd Generation.

Note 2:

No WAN daughter board can be plugged on a CPU-3m (or CPU-4) because the corresponding connectors have been removed.

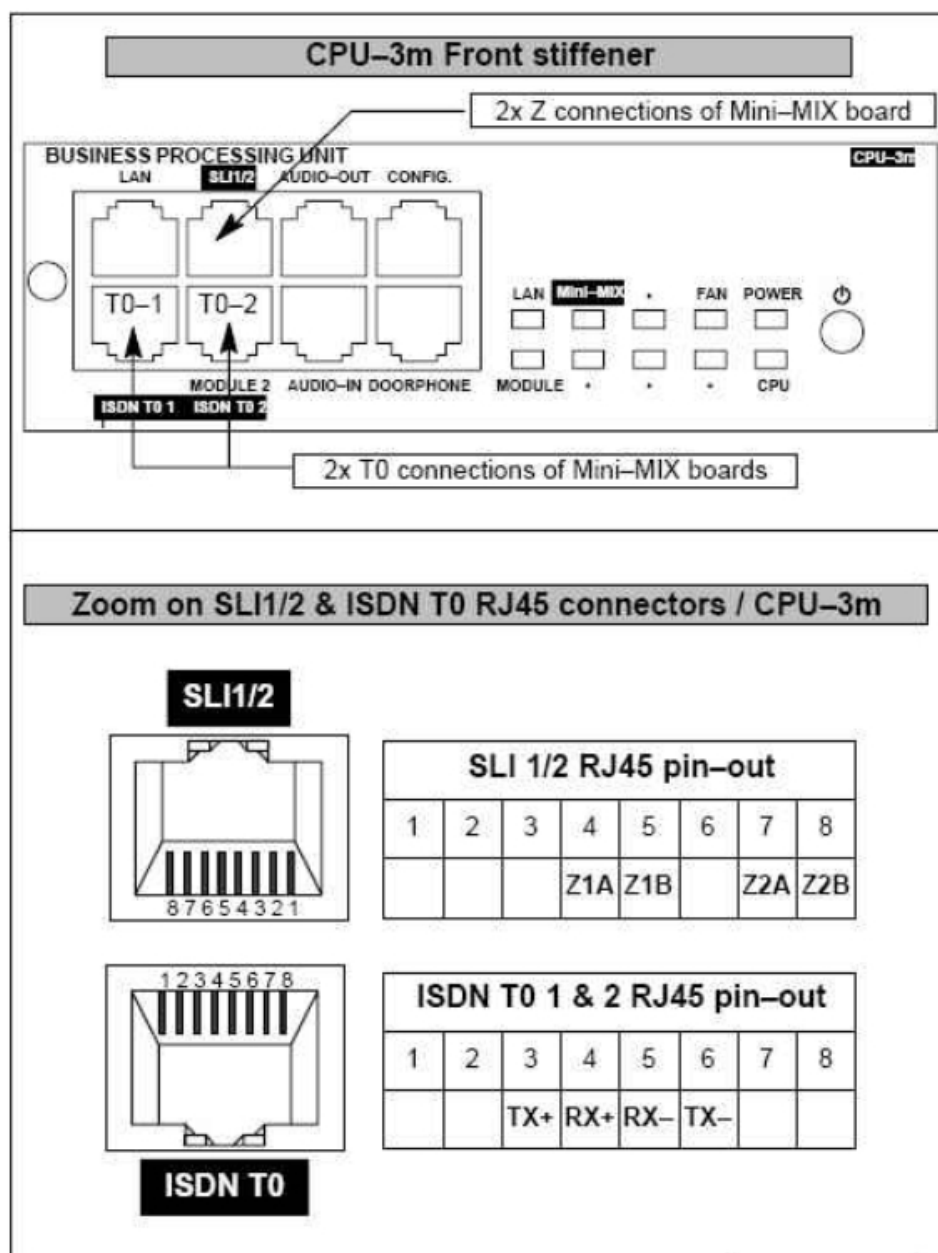


Figure 2.5: Mini-MIX connections on CPU-3m RJ45

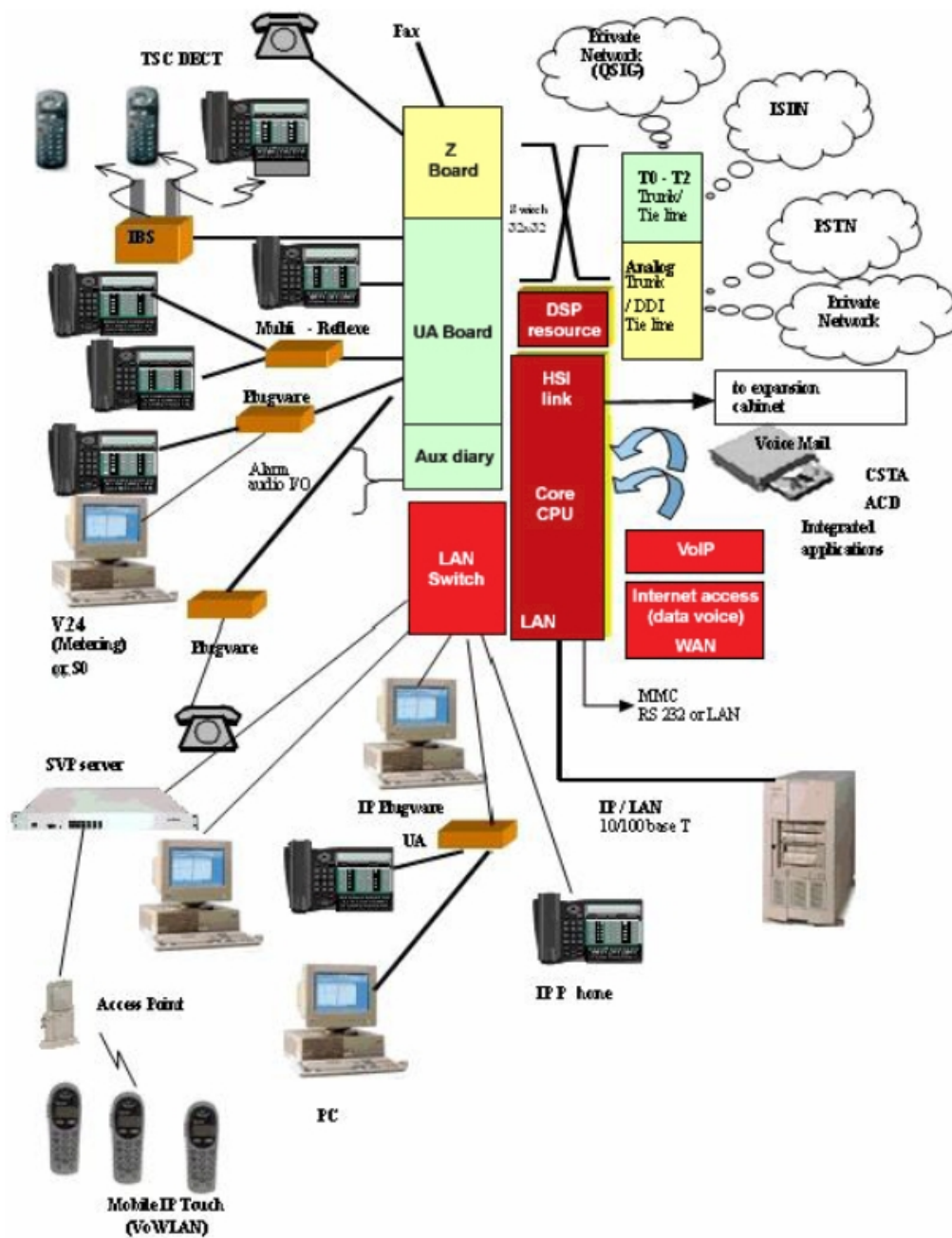
Equipment numbering:


- Slot 80 EN 01 for the first T0 access (80-001-01)
- Slot 80 EN 02 for the second T0 access (80-002-01)
- Slot 80 EN 09 for the first Z access (80-009-01)
- Slot 80 EN 10 for the second Z access (80-010-01)


2.3 Installation

2.3.1 Overview

2.3.1.1 INSTALLATION GUIDE



 This hardware must be installed on the customer's site, by a qualified installer, in compliance with the instructions provided with the hardware.

 Equipment shall be installed at the factory or in the field by submitter's trained personnel in accordance with the installation instruction provided with the equipment.

2.4 Equipment

2.4.1 Detailed description

The following table lists the boards available on Alcatel-Lucent OmniPCX Office Communication Server (S, M or L racks).

Board	Function	Optional boards	Connections
APA2 APA4 APA8	2, 4 or 8 analog trunk line interfaces	GSCLI: Ground Start signaling CLIDSP: CLIP local management	Analog trunk line (TL), TL-PS diversion
ATA2 ATA4	2 or 4 analog trunk line interfaces	MET: pulse meter receivers (phased out)	Analog trunk line (TL), TL-PS diversion
BRA2 BRA4 BRA8	2, 4 or 8 T0 basic accesses		ISDN network ISDN-EFM T0/S0 forwarding box
CPUe	Processing Unit (up to R1.1) - 64Mb SDRAM Always equipped with Hard Drive for Release R5.0 and above	HSL1, HSL2: interconnection with add-on modules AFU, AFU-1: (Auxiliary Function Unit)	Lanswitch or Ethernet terminal Please-wait message player Tuner for background music Alarm Doorphone Loudspeaker General call ringer ISDN-EFM T0/S0 forwarding box Pulse metering device OMC
CPU-1 CPU-2	Processing Unit (From R2.0) Processing Unit (From R3.0) 64 Mb Flash Memory. Always equipped with Hard Drive for Release R5.0 and above	HSL1, HSL2: interconnection with add-on modules AFU, AFU-1: (Auxiliary Function Unit) VoIP4-1, VoIP8-1 and VoIP16	Lanswitch or Ethernet terminal Please-wait message player Tuner for background music Alarm Doorphone Loudspeaker General call ringer ISDN-EFM T0/S0 forwarding box Pulse metering device OMC

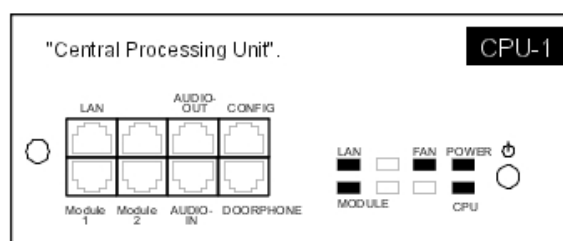
Board	Function	Optional boards	Connections
CPU-3	Processing Unit (From R5.0) 128 Mb Flash Memory. Optional Hard Drive	HSL1, HSL2: interconnection with add-on modules AFU, AFU-1: (Auxiliary Function Unit) VoIP4-1, VoIP8-1 and VoIP16 XMEM128-1 memory extension Xmem_IDE interface for Hard Disk	Lanswitch or Ethernet terminal Please-wait message player Tuner for background music Alarm Doorphone Loudspeaker General call ringer ISDN-EFM T0/S0 forwarding box Pulse metering device OMC
CPU-3m	Processing Unit (From R5.1) 128 Mb Flash Memory. Optional Hard Drive	HSL1, HSL2: interconnection with add-on modules AFU, AFU-1: (Auxiliary Function Unit) VoIP4-1, VoIP8-1 and VoIP16 XMEM128-1 memory extension Xmem_IDE interface for Hard Disk	Lanswitch or Ethernet terminal Please-wait message player Tuner for background music Alarm Doorphone Loudspeaker General call ringer ISDN-EFM T0/S0 forwarding box Pulse metering device OMC
CPU-4	Processing Unit (From R7.0) 128 Mb Flash Memory, 128 Mb SDRAM. Optional Hard Drive	HSL1, HSL2: interconnection with add-on modules AFU, AFU-1: (Auxiliary Function Unit) VoIP4-1, VoIP8-1 and VoIP16 XMEM128-1 memory extension Xmem_IDE interface for Hard Disk	Lanswitch or Ethernet terminal Please-wait message player Tuner for background music Alarm Doorphone Loudspeaker General call ringer ISDN-EFM T0/S0 forwarding box Pulse metering device OMC
CPUe-1 CPUe-2	Processing Unit (From R2.0) Processing Unit (From R3.1) Always equipped with Hard Drive	HSL1, HSL2: interconnection with add-on modules AFU, AFU-1: (Auxiliary Function Unit) WAN: additional Ethernet link	Lanswitch or Ethernet terminal Please-wait message player Tuner for background music Alarm Doorphone Loudspeaker General call ringer ISDN-EFM T0/S0 forwarding box Pulse metering device OMC

Board	Function	Optional boards	Connections
CoCPU CoCPU-1 CoCPU-2	CoProcessing Unit (Up to R1.1) CoProcessing Unit (From R2.0) CoProcessing Unit (From R3.1)	VoIP: (Voice over IP): SLANX4: mini switch (CPUs - CoCPUlink)	Lanswitch or Ethernet terminal
DDI2 DDI4	2 or 4 analog trunk line interfaces with Multiple Subscriber Numbers (MSN)		Analog trunk line with Multiple Subscriber Numbers (MSN)
LanX8 LanX16 LANX16-1 LanX8-2 LANX16-2	8 or 16 port Ethernet 10/100 BT (of which 1 or 2 10/100/1000 BT ports on LANX-2 boards)		@ Phones, Hub, Lanswitch, PC, etc.
MEX (equipped with an HSL1 board)	Extension module controller		
MIX244 MIX248 MIX284 MIX484 MIX448 MIX044 MIX084 MIX048	0, 2 or 4 T0 basic accesses + 4 or 8 UA interfaces + 4 or 8 Z interfaces		ISDN network, analog Z terminals and Alcatel Reflexes stations or 9 series-sets
AMIX484-1 AMIX448-1 AMIX444-1	4 analog line accesses, 4 or 8 UA interfaces and 4 or 8 Z interfaces	GSCLI: Ground Start signaling CLIDSP: local CLIP management METCLI	PSTN network, analog Z terminals and Alcatel Reflexes stations or 9 series-sets
PRA-T2 PRA-T1 DASS2 DLT2 T1-CAS T1-CSS PCM R2	PRA -T2, DASS2, DLT2: 30 x 64-Kbps B-channels + 1 x 64-Kbps D-channel; 2048 Kbps. PRA-T1: 23 x 64-Kbps B-channels + 1 x 64-Kbps D-channel; 1544 Kbps 23 x 64-Kbps B-channels + 1 x 64-Kbps D-channel T1-CAS: 24 x B-channels, including signaling; 1544 Kbps. PCM R2: 30 x 64 Kbps B-channels +1 x 4 Kbps signaling channel; 2048 Kbps.		PRA-T2: ISDN network DASS2: UK public/private network DLT2: Private QSIG network PRA-T1: Hong-Kong ISDN network ISDN (US) T1-CAS: USA public network PCM R2: Public network
SLI4 SLI8 SLI16 SLI4-1 SLI8-1 SLI16-1	4, 8 or 16 Z interfaces		Analog Z terminals

Board	Function	Optional boards	Connections
UAI4 UAI8 UAI16 UAI16-1	4, 8 or 16 UA interfaces UAI16-1 board: possibility of powering terminals connected to the 16 interfaces remotely from an external EPS48 power supply		Alcatel Reflexes stations or 9 series-sets Multi Reflexes 4070 IO/EO DECT base stations EPS48 only on interface 1 of the UAI16-1 board

2.4.1.1 Alcatel-Lucent OmniPCX Office Advanced Edition CS Processing Unit CPU-1, CPU-2, CPU-3, CPU-3m and CPU-4 Boards

The CPU-1 board performs the CPU functions of an Alcatel-Lucent OmniPCX Office Advanced Edition CS system.

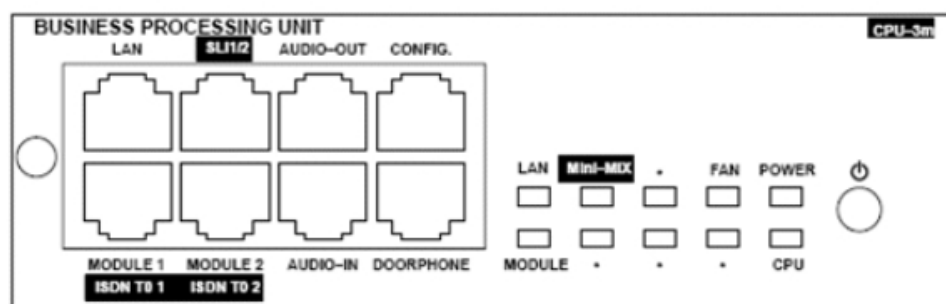


The CPU-2 board used for Alcatel-Lucent OmniPCX Office Communication Server 3.0 has the same main characteristics as the CPU-1. Only the 64 Mb flash memory is added.

The CPU-3 board includes a 128 Mb flash memory.

A CPU-3m (or CPU-4) board can also be used on an Alcatel-Lucent OmniPCX Office Advanced Edition CS system. The CPU-3m has the same characteristics as the CPU-3: Aspen 133Mhz, 64 Mb SD-Ram and 128 Mb NAND flash memory.

The CPU-4 has the same characteristics as the CPU-3/CPU-3m with 128 Mb SD-Ram instead of 64 Mb.

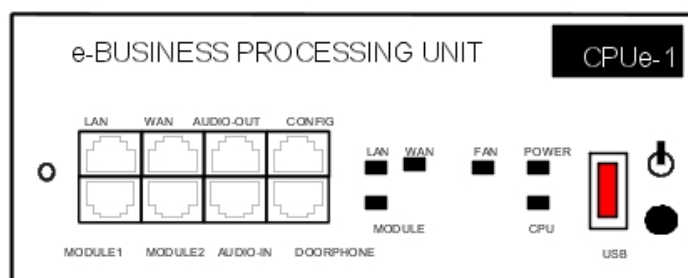


2.4.1.1.1 Function of the LEDs

Name	Color	Function
CPU	Green	CPU functioning LED (flashing)
POWER	Red/Green	<ul style="list-style-type: none"> - Mains operation: steady green LED - Battery operation: steady yellow LED - Idle: flashing red LED - System shut down: steady red LED
FAN	Red/Green	<ul style="list-style-type: none"> - Both fans functioning: steady green LED - 1 or both fans down: steady red LED
LAN	Green	LAN functioning LED (flashes when there is traffic)
Mini-MIX(Only available on CPU-3m or CPU-4)	Green only on Rack Compact Edition 2nd Generation with CPU-3m (or CPU-4)	Green only when accepted by the license 2B channels for MIX boards. Detection of Mini-MIX board in a Compact Edition 2nd Generation
MODULE	Green	Presence of HSL board

2.4.1.2 Alcatel-Lucent OmniPCX Office Premium Edition CS Processing Unit CPUE-1 and CPUE-2 Boards

The CPUE-1 board performs the CPU functions of a Alcatel-Lucent OmniPCX Office Premium Edition CS system.



The CPUE-2 board used for Alcatel-Lucent OmniPCX Office Communication Server 3.1 has the same main characteristics as the CPUE-1 board apart from the NOR Flash.

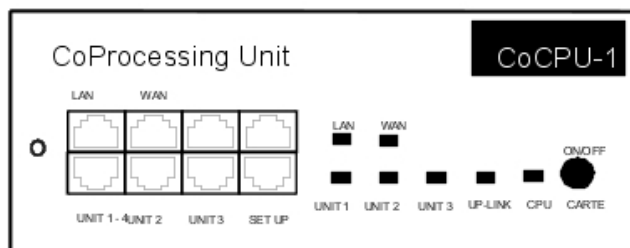
2.4.1.2.1 Function of the LEDs

Name	Color	Function
CPU	Green	CPU functioning LED (flashing)
POWER	Red/Green	<ul style="list-style-type: none"> - Mains operation: steady green LED - Battery operation: steady yellow LED - Idle: flashing red LED - System shut down: steady red LED
FAN	Red/Green	<ul style="list-style-type: none"> - Both fans functioning: steady green LED - 1 or both fans down: steady red LED
LAN	Green	LAN functioning LED (flashes when there is traffic)
MODULE	Green	Presence of HSL board

WAN	Green	LED showing good WAN functioning (flashes when there is traffic); LED used if an ADSL modem is connected.
-----	-------	---

2.4.1.3 CoProcessing Unit CoCPU-1 and CoCPU-2 Boards

The CoCPU-1 board is necessary when using one of the two following functionalities: VoIP or RAS (no simultaneous use).

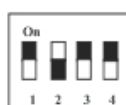


The CoCPU-2 board used for Alcatel-Lucent OmniPCX Office Communication Server 3.1 has the same main characteristics as the CoCPU-1 board apart from the NOR Flash.

2.4.1.3.1 Function of the LEDs

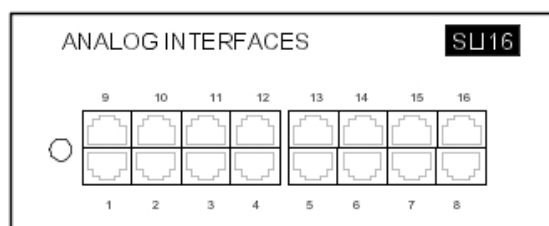
Name	Color	Function
CPU	Green	CPU functioning LED (flashing)
LAN	Green	LAN functioning LED (flashes when there is traffic)
WAN	Green	WAN functioning LED (flashes when there is traffic); LED used if an ADSL modem is connected, available from version R1.1 onwards
UNIT 1 - 4 UPLINK	Green	LED indicating correct functioning of LAN switch 1 to 4 interfaces (flashes when there is traffic)

2.4.1.3.2 Location of Micro-Switches



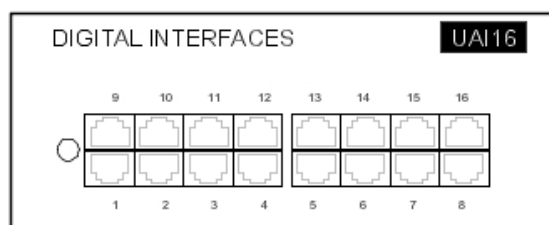
2.4.1.4 SLI-X Boards

Board allowing the connection of 4, 8 or 16 analog terminals.



2.4.1.5 UAI-X Boards

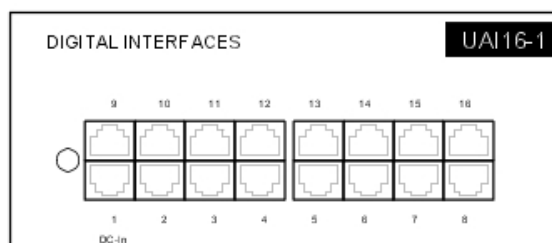
Board used for connecting up Alcatel Reflexes terminals or DECT 4070 IO/EO base stations.



The UAI16-1 board is used to power terminals connected to the 16 interfaces remotely from an EPS48 external power supply connected to interface 1 via an external adapter cable (splitter).

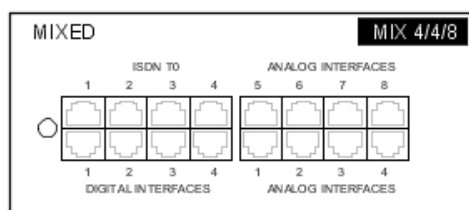
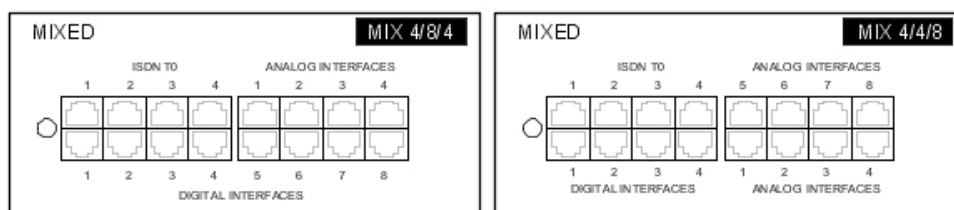
Caution:

Only use EPS48 power supplies and the splitters provided.



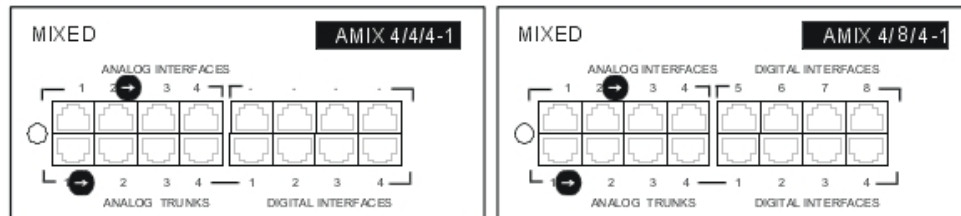
2.4.1.6 MIX x/y/z

These boards are used to connect 2 or 4 base T0 access points, 4 or 8 analog terminals and 4 or 8 Alcatel Reflexes dedicated terminals.



2.4.1.7 AMIX-1 X/Y/Z Boards

These boards are used to connect 4 analog accesses, 4 or 8 analog terminals and 4 or 8 Alcatel Reflexes dedicated terminals.



2.4.1.8 BRA-X Board

These boards are used to connect 2, 4 or 8 base T0 access points (2 B channels + 1 D channel) in order to connect the system to the digital public ISDN network (T0 point-to-point or multipoint connection) or to a private network (DLT0 point-to-point connection); the operating mode, T0 or DLT0, can be configured by OMC.

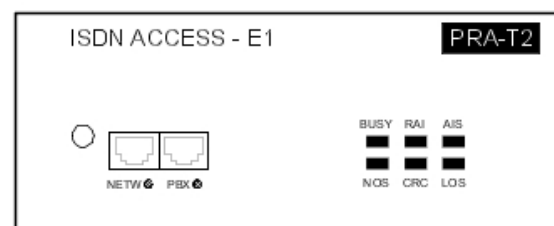


2.4.1.9 PRA Boards

This board provides 1 primary access for connecting the Alcatel-Lucent OmniPCX Office Communication Server system to the ISDN digital public network or to private networks:

- PRA -T2, DASS2, DLT2 : 30 x 64-Kbps B-channels + 1 x 64-Kbps D-channel; 2048 Kbps.
- PRA-T1 : 23 x 64-Kbps B-channels + 1 x 64-Kbps D-channel; 1544 Kbps.
- T1-CAS: 24 x B-channels, including signalling; 1544 Kbps.
- PCM R2: 30 x 64-Kbps B-channels + 1 x 4-Kbps signaling channel; 2048 Kbps.

The diagram below shows the end-plate of the PRA-T2 board, but the other PRA boards are similar.

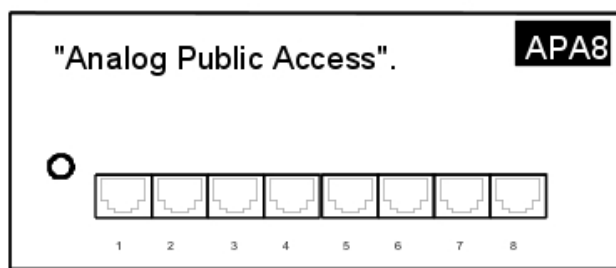


2.4.1.9.1 Function of the LEDs

T2 Name	T1 Name	Function
BUSY	BUSY	B-channels busy (red LED lights up if at least 1 B-channel is busy)
RAI (ATD)	RAI	Remote frame alarm (red LED lights up on alarm)
AIS (SIA2M)	AIS	Too many "1's in the 2-Mbit binary train (red LED lights up on alarm)
NOS (MS)	NSIG	Absence of 2-Mbit signal (red LED lights up on alarm)
CRC (TE)	CRC	CRC error (red LED lights up on alarm)
LOS (PVT)	NSYN	Loss of frame alignment (red LED lights up on alarm)

2.4.1.10 APA Boards

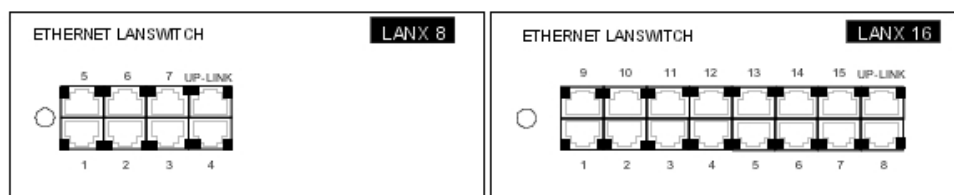
This board is used to connect to the analog public network (2, 4 or 8 LR).

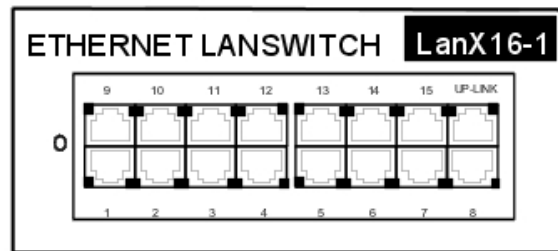


The APA board does not support pulse dialing in Australia and New Zealand.

2.4.1.11 LAN-X Boards

These boards are used to create a local area network (LAN) by connecting client PCs, IP-Phones, an external Lanswitch and servers..





Each category-5 RJ45 connector has 2 green LEDs:

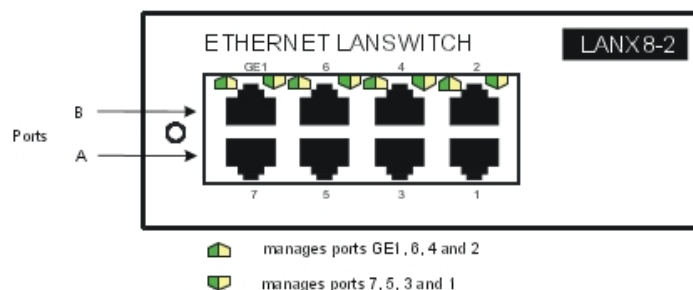
- Left LED = link status and activity:
 - off: link disconnected
 - on: link connected
 - blinking: link active
- Right LED = full duplex/collision:
 - off: Half Duplex
 - on: Full Duplex
 - blinking: collision

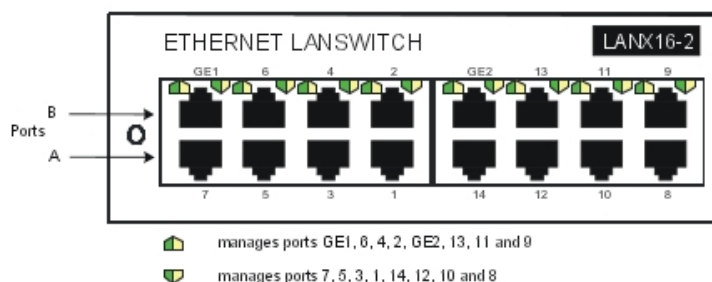
2.4.1.12 LANX-2 Boards

The LanX8-2 and LanX16-2 are second generation boards integrating respectively 1 or 2 Ethernet Gigabit ports for a LANSwitch/Layer 2 configuration. Any port can be used as an Uplink, as all the ports are auto MDI/MDIX.

Unlike the 1st generation boards, the LEDs of the A and B ports are both located at the top of the board. The Led display is as follows:

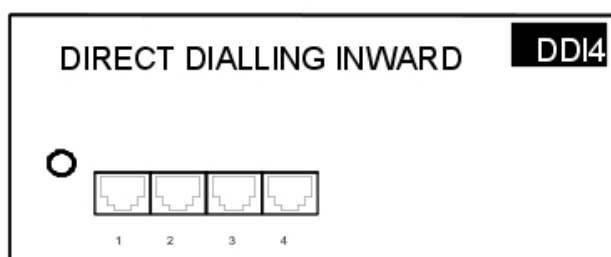
- Green LED (left) = link status and activity:
 - off: link disconnected
 - on: link connected
 - blinking: link active
- yellow LED (right) = speed:
 - off: low speed (10 or 100 Mb for Gigabit port, 10 Mb for the other ports)
 - on: high speed (1 Gb for Gigabit port, 100 Mb for the other ports)





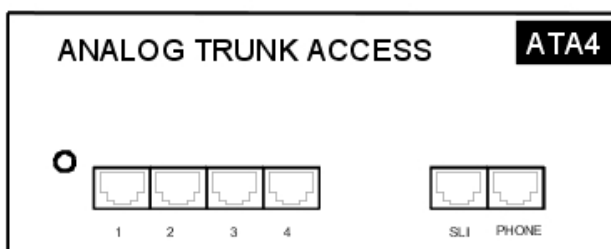
2.4.1.13 DDI-X Board

This board is used to connect 2 or 4 analog trunk lines with Multiple Subscriber Numbers.



2.4.1.14 ATA Board

The ATA (Analog Trunk Access) board serves to connect analog trunk lines (2 or 4 TL).



The ATA board does not support pulse dialing in Australia and New Zealand.

2.4.1.15 Daughter Board Provision/SDRAM on CPU Boards

The table below presents the various ways the daughter boards can be provided on the different CPU boards.

DAUGHTER BOARDS	CPU-1/ CPU-2	CPUE-1 /CPUE-2	CoCPU-1 /CoCPU-2	CPU-3	CPU-3m	CPU-4
SDRAM64	Yes	No	Yes	Yes	Yes	No
SDRAM128	No	No	No	No	No	Yes
SODIMM 256	No	Yes	No	Yes	Yes	Yes
XMEM, XMEM-1, XMEM128-1	Yes	No	No	Yes	Yes	Yes
VoIP, VoIP-1	Yes	No	Yes	Yes	Yes	Yes
HSL1	Yes	Yes	No	Yes	Yes	Yes
HSL2	Yes	Yes	No	Yes	Yes	Yes
AFU, AFU-1	Yes	Yes	No	Yes	Yes	Yes
WAN	No	Yes	No	No	No	No
Data-T1 (US only)	No	Yes	No	No	No	No
SLANX4	No	No	Yes	No	No	No
PATA HARD DISK	Yes	Yes	No	Yes	Yes	Yes
SATA HARD DISK + P2SATA-xxx Daughter Board	Yes	Yes	No	Yes	Yes	Yes
Mini-Mix	No	No	No	No	Yes	Yes

Alcatel-Lucent OmniPCX Office Compact Edition

	CE	Compact Edition 2nd Generation
Hard Disk	Yes	Yes
AFU	Yes	Yes
XMEM	Yes	Yes
Mini-MIX	No	Yes
VoIP	Yes	Yes

Note:

The Mini-MIX daughter board requires a CPU-3m (or CPU-4) in a Compact Edition 2nd Generation.

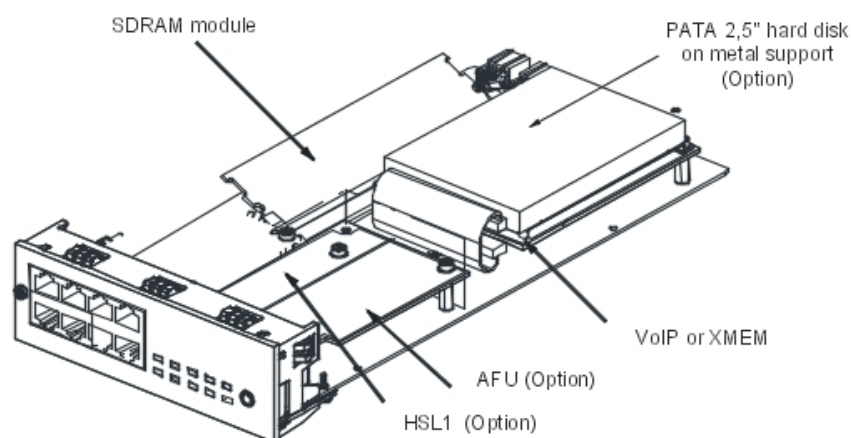


Figure 2.26: Example of Daughter Boards on CPU-1

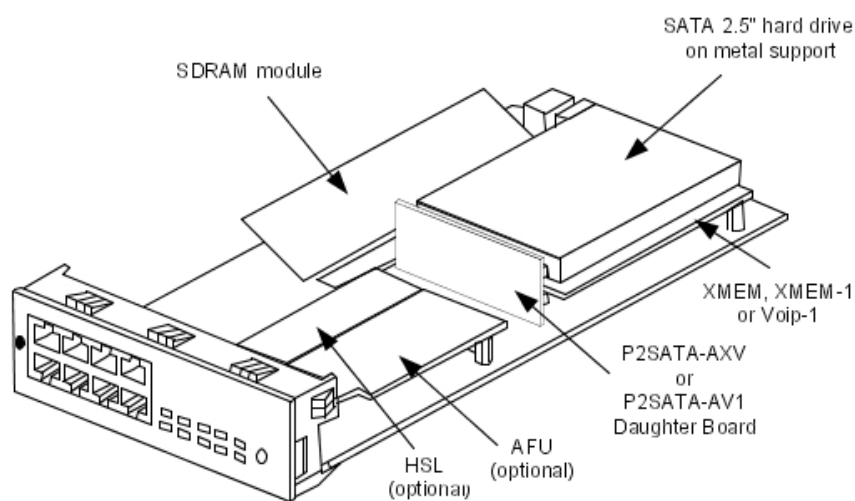
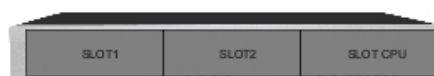


Figure 2.27: Example of CPU with SATA Hard Disk

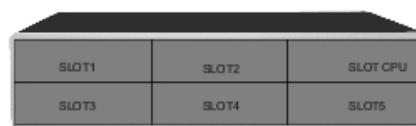
2.4.1.16 BASE Module Provision

2.4.1.16.1 Rack 1



Boards	Slots 1-2	CPU Slot
CPU-1, CPUe-1, CPU-2, CPUe-2, CPU-3, CPU-3m, CPU-4	No	Obligatory
MIX x/y/z	Yes	No
AMIX-1 x/y/z	Yes	No
UAI4, UAI8, UAI16, UAI16-1	Yes	No
SLI4, SLI8, SLI4-1, SLI8-1	Yes	No
SLI16, SLI16-1	No	No
PRA-T2, PRA-T1, DASS2, DLT2, T1-CAS, PCM R2	Yes	No
APA4, APA8	Yes	No
DDI2, DD14	No	No
BRA2, BRA4, BRA8	Yes	No
CoCPU-1, CoCPU-2	Yes	No
LANX8, LANX16, LANX16-1, LANX8-2, LANX16-2	Yes	No

2.4.1.16.2 Rack 2

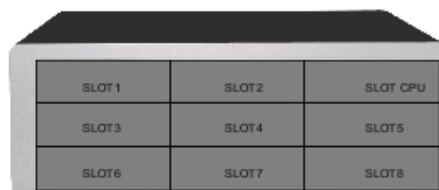


Boards	Slots 1-2-3-4-5	CPU Slot
CPU-1, CPUe-1, CPU-2, CPUe-2, CPU-3, CPU-3m, CPU-4	No	Obligatory
MIX x/y/z	Yes	No
AMIX-1 x/y/z	Yes	No
UAI4, UAI8, UAI16, UAI16-1	Yes	No
SLI4, SLI8, SLI16, SLI4-1, SLI8-1, SLI16-1	Yes	No
PRA-T2, PRA-T1, DASS2, DLT2, T1-CAS, PCM R2	Yes	No
APA4, APA8	Yes	No
DDI2, DD14	Yes	No
BRA2, BRA4, BRA8	Yes	No
CoCPU-1, CoCPU-2	Yes	No
LANX8, LANX16, LANX16-1, LANX8-2, LANX16-2	Yes	No

2.4.1.16.3 Rack 3

Caution:

The VoIP4-1, VoIP8-1 and VoIP16 boards implemented on a CPU board consume a hardware resource used for slot 8 of the module. In that case, it is impossible to add a board other than a LANXxx board in slot 8.



Boards	Slot 1	Slots 2-3-4	Slots5-6-7-8	CPU Slot
CPU-1, CPUe-1, CPU-2, CPUe-2, CPU-3, CPU-3m, CPU-4	No	No	No	Obligatory
MIX x/y/z	Yes	Yes	No	No
AMIX-1 x/y/z	Yes	Yes	No	No
UAI4, UAI8	Yes	Yes	Yes	No
UAI16, UAI16-1	Yes	Yes	No	No
SLI4, SLI8, SLI16, SLI4-1, SLI8-1, SLI16-1	Yes	Yes	Yes	No
PRA-T2, PRA-T1, DASS2, DLT2, T1-CAS, PCM R2	Yes	Yes	Yes	No
APA4	Yes	Yes	Yes	No
APA8	Yes	No	Yes	No
DDI2, DD14	Yes	Yes	Yes	No
BRA2, BRA4, BRA8	Yes	Yes	Yes	No
CoCPU-1, CoCPU-2	Yes	Yes	Yes	No
LANX8, LANX16, LANX16-1, LANX8-2, LANX16-2	Yes	Yes	Yes	No

2.4.1.17 Alcatel-Lucent OmniPCX Office Compact Edition 1st and 2nd Generations



Board	MIX Slot	CPU Slot
CPU-2, CPU-3, CPU-3m, CPU-4	No	Obligatory
MIX x/y/z	Yes	No
AMIX-1 x/y/z	Yes	No
Mini-MIX	No	Yes

3.1 Software Licence Management

3.1.1 SOFTWARE LICENCE MANAGEMENT

On an Alcatel-Lucent OmniPCX Office Communication Server several types of devices may be connected, several services may be offered and several applications may run.

The purpose of the feature “Software Licence Management” is to define for a given system (i.e. customer) the service level to offer, this mainly means:

- What devices are allowed and how many of each type.
- Which service is offered.
- Which application is to open.
- How many users are allowed.
- What features the hardware can support.

The SWL (SoftWare Licence) files define the level of service requested.

The software license can be managed by either of the 2 following modes:

- **Normal mode:** Like for any previous release, there is no user definition and the validity of the license in open state is not limited.
- **On Demand mode:** This mode introduces a “user” definition and the validity of the license in OPEN state is limited and daily checked by the system.

Note:

In Normal mode and in On Demand mode, the SWL files are loaded to the system or updated manually using OMC

Once SWL files are available on the system, either in Normal mode or in On Demand mode, the feature is the same for both modes and it manages the following functions

- Definition, modification and checking of the service level.
- Dimensioning of a system for a correct service level.
- Limitation of requested services depending on hardware installed.
- Daily or on request checking (by OMC) of the SWL files in order to adapt the service level.
- Selection between On Demand mode or Normal one
- Information to user and/or installer about the state of system in terms of service level.

3.2 Software Keys

3.2.1 Overview

In the Alcatel-Lucent OmniPCX Office Communication Server system, a software key is represented by an alphanumeric string of characters, which opens functions. Two software keys correspond to each Alcatel-Lucent OmniPCX Office Communication Server system:

- the **PRINC (PRINCIPAL) software key** or **MAIN** for the system functions (voice, Internet, etc.)
- the **CTI Software key** for the CTI functions

The software key corresponds to a text file where the name is the CPU hardware number with the **.MSL** (MAIN key) or **.CSL** (CTI key) extension.

Example:

file 000068DA.msl and 000068DA.csl for main CPU no. 000068DA.

Each system needs the Main and CTI Software keys even if no CTI application is used on the system.

The systems can be delivered with a key that is already personalized for the client. The Distributor needs to load if necessary the personalized key on the non-factory-configured systems.

On starting up the system, different cases are possible:

- **The functions needed by the customer are open and work properly:** the software key present on the system is correct.
- **The functions needed are not open**
- **The key is valid but some functions are not open** (verification done by MMC).
 - Verify that the order meets the client's needs. If not, contact the orders" department. A new software key needs to be created including the new features.
 - When loading the key via OMC a warning message is displayed. In this case the functionalities may be limited due to insufficient memory (Hard disk or XMEM) or CPU power.
- **The software key present on the system is not correct:**
 - The software key syntax is correct but it does not match the CPU's serial number. The system functions correctly with all its functionalities for 30 days. A message " Software Key Error " is displayed on the Operator terminal. Press the Alarm key to show the expiry date. When loading a correct key (valid CPU serial number) during this period, the system state is normal. If no correct key is loaded after 30 days, the system will restart in limited state with only sets belonging to the Operator group working, all other sets being out of service; the "Software key error" is displayed on the operator station.
 - The software key syntax is incorrect. The system starts in limited mode. When loading the correct Software key (with the correct serial number), the system restarts with all functions working.
 - **New control starting with R2.0:**
 - The software key syntax is correct, but the software key does not match the system's software release. The system functions correctly with all its functionalities for 30 days.
 - The software key syntax is correct, the software release is correct but a more recent key has already been entered on this system and it is not possible to revert to a previous key. The system functions correctly with all its functionalities for 30 days.

Remark:

For a system in limited mode, when a valid software key is loaded, the system restarts with all its functionalities.

3.2.1.1 Voice services available in "limited" mode

- Stations in the default Attendant Group and analog sets with automatic call setup on going off-hook
- no DECT stations, including Alcatel-Lucent DECT Reflexes stations
- Voice server with name announcement, 2 ports and 20 minutes" storage
- 4 welcome messages (pre-announcement)
- 2 system languages
- "Please Wait" music: 2 minutes max.
- All the other functions are closed.

3.2.1.2 SOFTWARE KEY CHANGE

In BTCO mode, the software key is loaded into the system by the manufacturer; in "stock mode" (after sale), the key must be entered by the distributor. When upgrading, the installer must modify the key before the new functions will be taken into account.

The key is modified using OMC or DHM-station.

3.2.1.2.1 Procedure with OMC

- To read the series number of a CPU board: Select **Typical Modification -> System -> Software key -> Hardware serial number**
- Send this serial number and the function levels required to Alcatel-Lucent Enterprise
- Load the key file *Main.msl* or *CTI.csl* from the Alcatel-Lucent Business Partner Internet site (this file can also be downloaded by the manufacturer)
- Downloading a new software key:
 - Select **Typical Modification -> System -> Software key**
 - Click on **Importing the key**
 - On the **Open** screen, select the file for the new software key
 - Validate
 - On the **Software Key** screen, click on **Apply**
- Opening certain functions requires a hot reset; a message is displayed.



If the hardware required to carry out the functions that have been opened by the software key is not present, the functions available are automatically reduced to suit the available hardware; and error message is displayed when the key is implemented.



The values of the various functions controlled by the key can be viewed at any moment:

- Using OMC, select **Typical Modification -> System -> Software key**
- Click on **Details**: the first column indicates the functions defined by the key, the second column indicates the functions actually open (after any reductions).

3.2.1.3 SERVICES CONTROLLED BY THE "MAIN" SOFTWARE KEY

The following table lists the functions controlled by the "Main" software key, the "limited" mode values and the configuration modularity.

Controlled services	Relevant software version	Values in limited mode	Modularity	Max	Hardware extension
STANDARD TELEPHONY					
Number of Reflexes sets	All	According to selected model	+1	236	
Number of analog sets	All		+1	236	
MOBILITY					
Number of DECT + DECT Reflexes sets	All	0	+1	200	
Number of Mobile IP Touch sets	From R5.0	0	+1	120	
CALL MANAGEMENT					
ARS	All	open in R1.0/R1.1, closed from R2	open		NO
DISA/Transit DISA	All		open		NO
ISVPN on ISDN (ARS required)	All	closed	open		NO
QSIG + (ARS required)	All	closed	open		NO
Number of Meet Me Conference	From R5.1	0	+ 1	1	
NETWORKS					
Number of B-channels	All	0	+1	120	
Number of B-channels on MIX boards	From R4	0	+2	120	
INTERNET ACCESS					
Internet and Intranet Access	All	closed	open		
Proxy: Web cache and Access control	All	closed	open		
E-mail server	All	closed	open		
VPN Internet	All	closed	open		
Internet Access on application board	R1.0/R1.1	NO	YES		YES
DSL	From R1.1	closed	open		
LAN to LAN	From R1.1	closed	open		
Back-up	From R2.0	closed	open		
Loading URL filters	From R2.0	closed	open		
Statistical data	From R2.0	closed	open		
Web and file server (Intranet)	From R2.0	closed	open		
WEB APPLICATION					
WCA (Web Communication Assistant): number of users	From R2.1	0	+1	200	
SNMP					
SNMP activation	From R2.1	closed	open		
RAS					
Number of accesses (B-channels)	From R2.0	0	+2	16	

Controlled services	Relevant software version	Values in limited mode	Modularity	Max	Hardware extension
LAN TELEPHONY					
Number of IP Phones (e-Reflexes and IP Touch)	All	0	+1	200	
Number of PIMphony multimedia terminals	All	0	+1	200	
VoIP GATEWAY					
Number of VoIP channels	All	0	+1	120	
VOIP					
VoIP on application board	R1.0/R1.1	NO	YES		YES
VOICE MAIL UNIT AND AUTOMATED ATTENDANT					
Number of VMU ports	All	0 port	+1	8	YES
Storage capacity	All	20"	10"	200 hours	YES
Automated Attendant	All	closed	open		NO
Audiotext	All	closed	open		NO
Fax switching	All	closed	open		NO
Mailbox welcome messages	All	closed	open		YES
Name in mailing lists	All	closed	open		YES
Recording of conversations	All	closed	open		YES
Remote customizing	From R2.0	closed	open		NO
GREETING					
Number of messages (16")	All	4	+4	8	YES
ON-HOLD MUSIC					
Duration (minutes)	All	2	+2	10	YES
MULTIPLE AUTOMATED ATTENDANT					
Number of tree structures: 1 license for 1 tree structure or 1 license for 5 tree structures	From R6.0	closed	open	5	NO
"ON DEMAND" LICENSE					
On Demand	From R5.0	R5 and R5.1: Not controlled by the system. From R6: Indication that On Demand option is enabled.			
On Demand Ending Date	From R6.0	Displayed if "On Demand mode" license enabled. It is the license validity date.			
Number of users	From R6.0	From R6: Not controlled by the system: Only used for information in OMC			
METERING					
Number of NMC tickets	All	0	+1000	30000	YES

Controlled services	Relevant software version	Values in limited mode	Modularity	Max	Hardware extension
Accounting over IP	From R5.0	closed	open		NO
LANGUAGES					
Number of languages	All	2	+1	4	YES
SWL RELEASE					
Required system release	From R2	0 (R1 or R1.1)	+1	1 (R2) 2 (R3) 3 (R4) 4 (R5) 5 (R6)	YES
ENGINE					
Package level	Ignored by the system				
ENGINEbis					
Special info for ELP	Ignored by the system				
Checker syst solution					
Special info for ELP	Ignored by the system				
Checker cs type					
Special info for ELP	Ignored by the system				
Checker PCX 01					
Special info for ELP	Ignored by the system				
Acknowledge Code					
Random code given by ecom.	From R2	1		FFFF	NO
EDITION					
Edition number of license	From R2	0	+1	FFFF	NO
Number of groups	From R3	8 groups	0	8	YES
Number of active agents	From R3	5, 10, 20, or 32 depending on license	0	32	YES
statistics module	From R3	closed	open		YES
Number of agent applications	From R3	0	+1	32	YES
Number of supervisors	From R3	0	+1	4	YES

3.2.1.4 SERVICES CONTROLLED BY THE "CTI" SOFTWARE KEY

The following table lists the functions controlled by the "CTI" software key.

Controlled services	Relevant software version	Default state	Modularity	Max (ASPEN/PIII)
APPLICATION				

PIMphony Pro	All	0	+1	250
PIMphony Team	All	0	+1	250
Nomadic mode	From R3	0	+1	25 (R4) 50 (R5.0)
PIMphony release 6.0	From R5.0	0	+1	50 (R4) 60 (R5.0)
PIMphony Attendant	From R5.0	0	+1	250
On Demand	From R5.0	Not controlled by the system		
INTEGRATED TAPI 2.0 ***				
Number of sessions	All	25 (R1) 0 (from R2)	+1	75/200 *
Number of monitors	All	250 (R1) 0 (from R2)	+1	250/500 **
Features	All	None		All
Alcatel-Lucent OmniPCX Office Communication Server CALL CENTER				
Number of sessions	All	0	+1	28/200 *
Number of monitors	All	0	+1	250/500 **
Features	All	None		All
CSTA DESKTOP CLIENT				
Number of sessions	All	0	+1	28/200 *
Number of monitors	All	0	+1	250/500 **
Features	All	None		All
CENTRAL SERVICES				
Number of sessions	All	0	+1	28/200 *
Number of monitors	All	0	+1	250/500 **
Features	All	None		All
CSTA (ALL FEATURES)				
Number of sessions	All	0	+1	28/200 *
Number of monitors	All	0	+1	250/500 **
Features	All	None		All
TAPI 2.1 SERVER				
Number of sessions	All	0	+1	28/200 *
Number of monitors	All	0	+1	250/500 **
Features	All	None		All
SUPERVISION				
Number of sessions	All	0	+1	28/200 *
Number of monitors	All	0	+1	250/500 **
Features	All	None		All
XML SERVER				

Number of sessions	All	0	+1	1 *
Number of monitors	All	0	+1	250/500 **
Features	All	None		All
PIMphony UNIFIED				
Number of sessions	From R3.1	0	+1	1 *
Number of monitors	From R3.1	5	+10	75 **
Features	From R3.1	None		All
SOFTWARE LICENSE VERSION				
Required system version	From R2	0 (R1/R1.1)	+1	1 (R2) 2 (R3) 3 (R4) 4 (R5)
EDITION				
Edition of license	From R2	0	+1	FFFF (Hex)

* The maximum number of sessions of all kinds at any one time is 80 on ASPEN and 200 on PIII.

** The maximum number of monitors of all kinds at any one time is 250 on ASPEN and 500 on PIII.

*** In R1, this service is always present in the CTI software key. Only two monitors per session are allowed.

4.1 Presentation

4.1.1 Overview

4.1.1.1 LOCATION OF UNIT

The Alcatel-Lucent OmniPCX Office Communication Server unit can be installed in three ways:

1. Fixed directly to the wall: a kit is available for wall-mounting Rack1 and Rack2 models.
2. Mounted in a rack: the unit is mounted in the rack using the fixing brackets supplied by the rack manufacturer, or using the optional 19" mounting kit (a kit is available for each module type).
3. Placed on a table: no more than three units can be laid on top of each other.

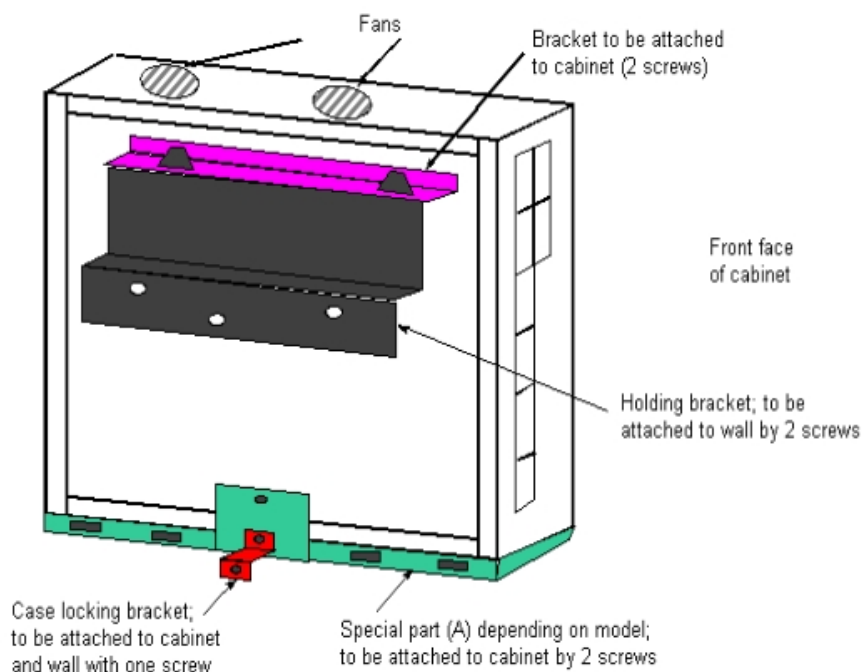
Remark:

The Alcatel-Lucent OmniPCX Office Compact Edition unit is fixed either directly to the wall, or to a wall support (US version). In both cases, use the hole drilling template supplied with the unit.

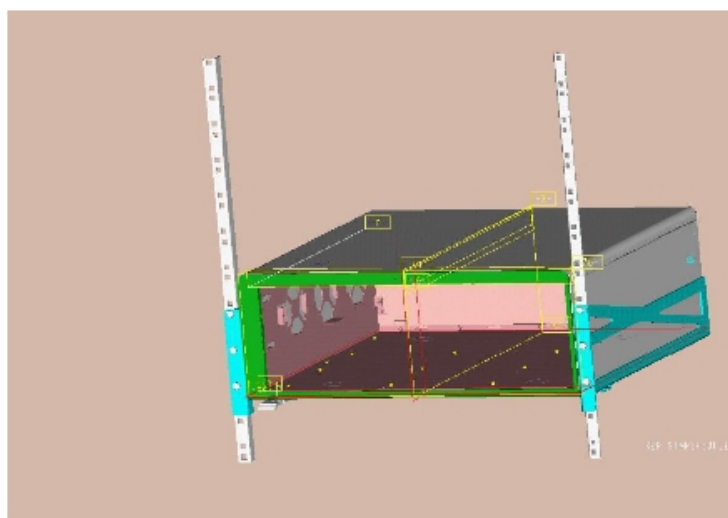
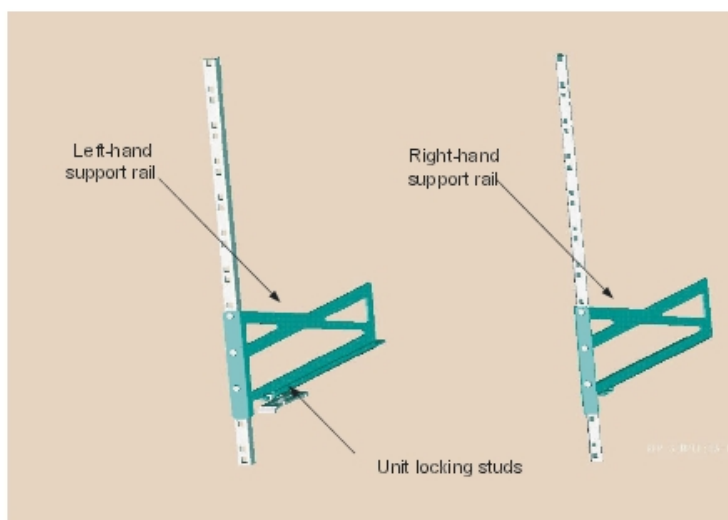
4.1.1.1.1 Wall mounting (Rack1 and Rack2 only)

The enclosure comprises 4 parts:

After mounting, the space between the unit and the wall can be used for cables.



4.1.1.1.2 Mounting in the 19" rack



Recommendations

Before installing the system in a 19" rack, you must verify that:

- The maximum static load (given by the manufacturer) of the 19" rack is greater than the overall weight of the equipment mounted or to be mounted in the rack.
- Moreover, the weight of the equipment must be evenly distributed between the brackets.
- If mounting the Alcatel-Lucent OmniPCX Office Communication Server module results in exceeding the load on the front supports (generally the total weight divided by two), the module must be placed on a fixed tray attached to the four supports of the rack.

4.1.1.2 ENVIRONMENT

4.1.1.2.1 Climatic conditions

- **Operation**
 - **Temperature:** for maximum reliability, it is recommended you comply with an ambient temperature of between 5 and 40 degrees Celsius, with a maximum variation of 5 degrees Celsius per hour.
 - **Humidity:** the humidity must be in the range 10% - 80% (no condensation) with a maximum variation of 10% per hour.
- **Storage**
 - **Temperature:** the temperature must be kept between -20 and +70 degrees Celsius.
 - **Humidity:** the humidity must be kept in the range 10 - 95% (no condensation).

4.1.1.2.2 Vibration

No vibration, even intermittent, may be transmitted to the equipment when running.

4.1.1.2.3 Site

- Choose a dry, clean and well ventilated location.
- Maintain an ambient air flow to ensure normal ventilation. If the air flow is blocked or restricted, of the incoming air is too hot, overheating is possible.
- When installing the equipment in an enclosed 19" rack, verify that the rack is provided with a fan suited to the heat dissipation of the equipment installed. Maintain a minimum gap of 3 cm around the side ventilation holes (left and right sides), and of 10 cm minimum around the ventilation holes at the rear of the equipment. Verify that the air flow is not impeded on the sides of the rack.
- When fixing the system directly to the wall using the wall-mounting kit (Rack1 and Rack2 only), maintain a free space of at least 15 cm around the whole system. Ensure that no objects are placed on the upper part of the system to restrict the extraction of hot air. When installing several units, it is preferable to align them horizontally. When superposing them vertically, they should be separated by at least 10 cm.
- Verify that the cables connecting the Alcatel-Lucent OmniPCX Office Communication Server or other equipment, or the supports for the housing structure (19" rack for example) do not obstruct the air flow through the unit.
- A switchable 230 V or 110 V mains socket (according to country) - 50Hz (LNE) is required at less than 1 m from the unit unless it is installed in a rack in which case the integrated circuit breaker is used.
- Adequate lighting must be provided.

4.2 Connections and Cabling

4.2.1 Detailed description

4.2.1.1 OUTPUT CONNECTORS

All outputs are made using **Female RJ45** connectors.



Front panel RJ45 female connector

Remark:

the CPU-2 and MIX boards used for Alcatel-Lucent OmniPCX Office Compact Edition have the same characteristics as those used by Alcatel-Lucent OmniPCX Office Communication Server.

4.2.1.1.1 CPU-1, CPU-2, CPU-3, CPU-3m, CPU-4, CPUE-1 and CPUE-2 boards

RJ45 pin	1	2	3	4	5	6	7	8
LAN	TX+	TX-	RX+			RX-		
AUDIO-OUT	Audio Out A	Audio Out B	Alarm A	CenRg A	CenRG B	Alarm B	Ground	+12 V
CONFIG	CTS	DSR	RX	Ground	Ground	TX	DTR	RTS
MODULE1	TX+	TX-	RX+			RX-		
MODULE2	TX+	TX-	RX+			RX-		
AUDIO-IN	Audio In A	Audio In B	Audio Ctrl A			Audio Ctrl B		
DOORPHONE			DoorPh B1	DoorPhA1	DoorPhA2	DoorPhB2		
SLI1/SLI2				ZA1	ZB1		ZA2	ZB2
T01/T02			TX+	RX+	RX-	TX-		

- LAN : 10/100 base T Ethernet port (MDI-II/straight), for connections between CoCPU-1, CoCPU-2 and LAN.
- AUDIO-OUT: Interfaces Loudspeaker alarm General ringer; 12V output
- AUDIO-IN : Interfaces PLEASE WAIT MESSAGE Background music
- DOORPHONE : Interfaces doorphone
- CONFIG : RS232 for OMC.
- MODULE1: HSL link for connection to add-on module 1
- MODULE2: HSL link for connection to add-on module 2

Note:

The USB connector on the CPUE-1/CPUE-2 boards is not currently used.

4.2.1.1.2 CoCPU-1 and CoCPU-2 boards

RJ45 pin	1	2	3	4	5	6	7	8
LAN	TX+	TX-	RX+			RX-		
Up-Link	TX+	TX-	RX+			RX-		
Unit 1 to 3 outputs	RX+	RX-	TX+			TX-		

- LAN : 10/100 base T Ethernet port (MDI-II/straight).
- UNIT1, UNIT2, UNIT3: ports on integrated LAN switch (MDI-X/crossover).
- UPLINK : integrated LAN switch uplink port (MDI-II/straight).

4.2.1.1.3 SLIboard

RJ45 pin	1	2	3	4	5	6	7	8
1 to 16				ZA	ZB			

- 1 to 16: connecting analog Z terminals.

4.2.1.1.4 UAI board

RJ45 pin	1	2	3	4	5	6	7	8
1 to 16 (UAI)				L1	L2			

- 1 to 16: connection of Alcatel Reflexes terminals or DECT 4070 IO/EO base stations.

4.2.1.1.5 UAI-1 board

RJ45 pin	1	2	3	4	5	6	7	8
1				L1	L2		0V	48V
2 to 16				L1	L2			

- 1 : connection of an EPS48 external power supply + connection of Alcatel Reflexes terminals or DECT 4070 IO/EO base stations.
- 2 to 16: connection of Alcatel Reflexes terminals or DECT 4070 IO/EO base stations.

4.2.1.1.6 BRA board

RJ45 pin	1	2	3	4	5	6	7	8
1 to 8			TX+	RX+	RX-	TX-		

- 1 to 8: connection of T0/DLT0 basic access.

4.2.1.1.7 PRA Board

RJ45 pin	1	2	3	4	5	6	7	8
NETW outputs	RX+	RX-		TX+	TX-			
PBX outputs	TX+	TX-		RX+	RX-			

- NETW: connection to the public network (TNL).

- PBX: use in private network with TX and RX twisted pairs.

4.2.1.1.8 LANX and LANX-1 board

RJ45 pin	1	2	3	4	5	6	7	8
Ports 1 to 15	RX+	RX-	TX+			TX-		
Up-Link	TX+	TX-	RX+			RX-		

- Ports 1 to 15: internal ports.
- Up-Link: LAN connection.

4.2.1.1.9 LANX-2 board

RJ45 pin	1	2	3	4	5	6	7	8
Ports 1 to 14	RX+	RX-	TX+			TX-		
GE1, GE2	TR0+	TR0-	TR1+	TR2+	TR2-	TR1-	TR3+	TR3-

- Ports 1 to 14: 10/100 BT ports.
- GE1, GE2: 10/100/1000 BT ports.

4.2.1.1.10 APA board

RJ45 pin	1	2	3	4	5	6	7	8
Output 1	ZSETB	ZSETA		LB-Ring	LA-Tip		ZB	ZA
Outputs 2 to 8				LB-Ring	LA-Tip			

- 1 : connection of network line 1, SLI interface and callback terminal
- 2 to 8: connection of other analog trunk lines

4.2.1.1.11 DDI board

RJ45 pin	1	2	3	4	5	6	7	8
1 to 4				L-	L+			

- 1 to 4: connection of DDI analog trunk lines.

4.2.1.1.12 ATA Board

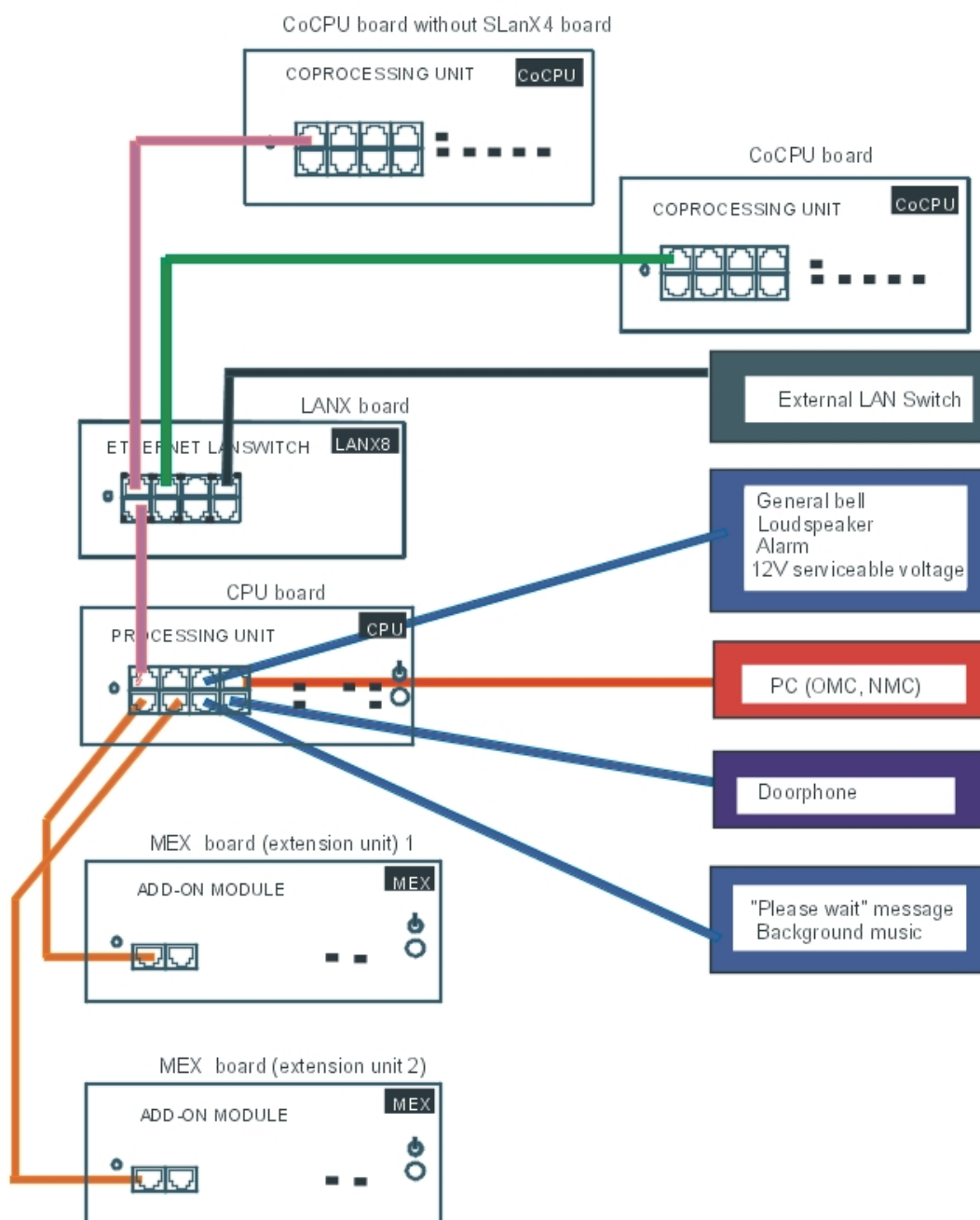
RJ45 pin	1	2	3	4	5	6	7	8
Outputs 1 to 4				PEA	PEB			
SLI outputs				ZA	ZB			
PHONE outputs				ZSETA	ZSETB			

4.2.1.2 TYPES OF CABLE TO USE

Access	Type	Impedance
Alcatel Reflexes, Z, T0, LR	UTP, FTP or STP, Category 3 or 5	100 or 120 ohms
T2	UTP, FTP or STP, Category 3 or 5	120 Ohms
T1	UTP, FTP or STP, Category 3 or 5	120 Ohms
Ethernet	FTP or STP, Category 5	100 Ohms
HSL	STP supplied with the product, Category 5	100 Ohms

- UTP: Unshielded Twisted Pairs
- FTP: Foiled Twisted Pairs
- STP: Shielded Twisted Pairs

4.2.1.3 CONNECTION OF CPU BOARDS



4.2.1.4 CONNECTING TERMINALS

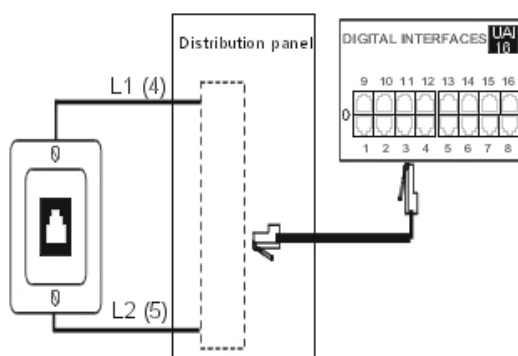
4.2.1.4.1 Connection of Alcatel Reflexes terminals

The terminals are equipped with a cable and a self-acting switch that plugs into the wall socket. Each terminal is connected up by a pair of 0.5 or 0.6 mm diameter wires.

System - Reflexes terminal distances:

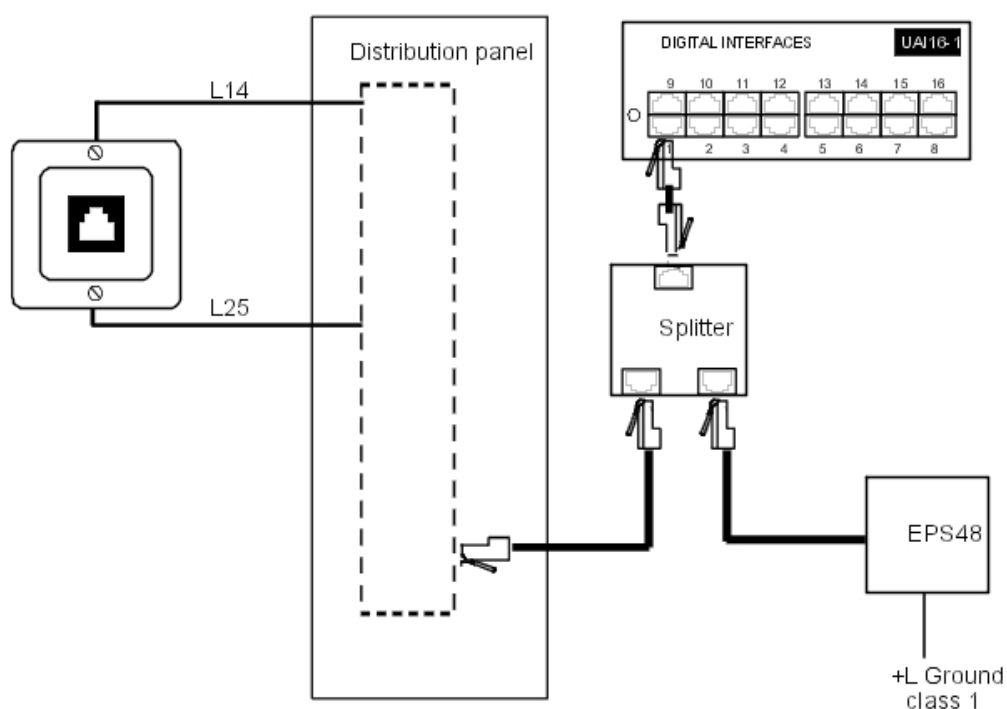
- 0.5 mm SYT type cable: 800 m (station without option) or 600 m (station with S0 or Z option).
- 278 type 0.6 mm cable: 1200 m (station without option) or 850 m (station with S0 or Z option).

Connection without external power supply



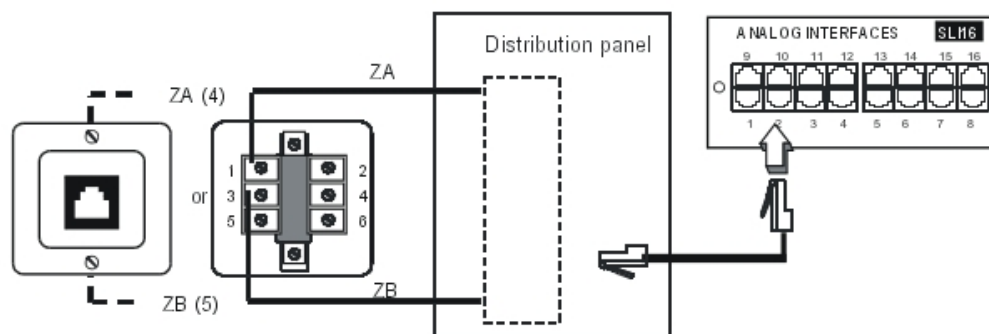
Connection with external power supply

A splitter allows the separation of the UA peripheral connection and the EPS48 external power supply.



4.2.1.4.2 Connecting analog terminals

The terminals are equipped with a cable and a self-acting switch that plugs into the wall socket. Each terminal is connected up with a pair of 0.5 or 0.6-mm diameter wires (the maximum distance with 0.5-mm cabling is 1.3 km).

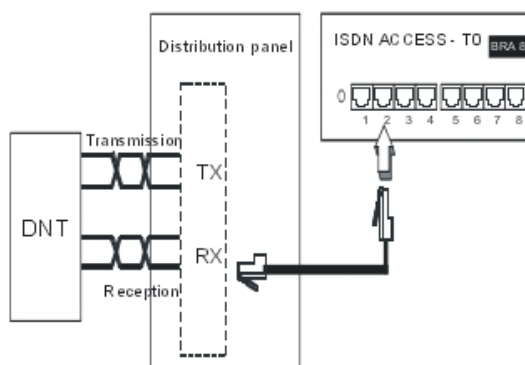


4.2.1.5 CONNECTION TO THE PUBLIC NETWORK

4.2.1.5.1 Digital public network via T0 access (or DLT0 private network)

The Alcatel-Lucent OmniPCX Office Communication Server system can be installed near the digital network termination or at a certain distance (up to 350 m), as required.

Connection without T0/S0 forwarding



Caution:

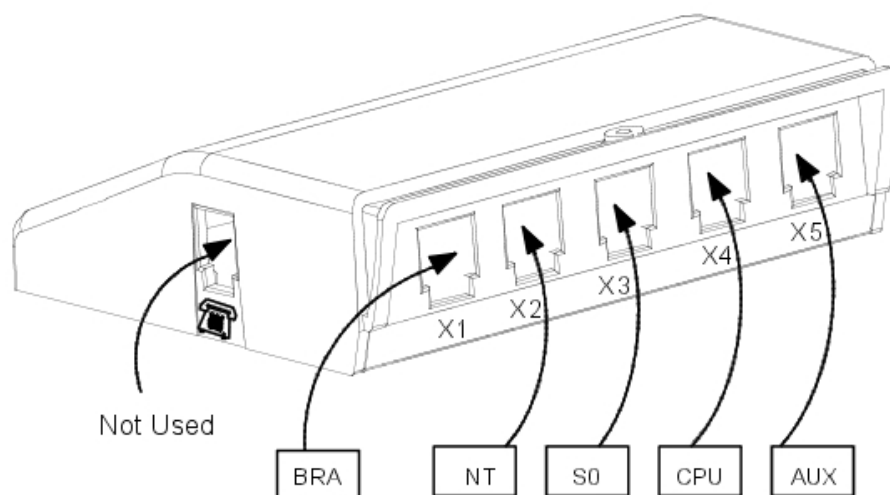
In T0 Point-to-Point installations, the Alcatel-Lucent OmniPCX Office Communication Server system MUST BE the terminating element of the bus and any other terminating resistor MUST BE removed.

Connection with T0/S0 forwarding

In the event of a loss of tension or CPU malfunction, the ISDN-EFM box allows a T0 access to be forwarded directly to a S0 station.

Caution:

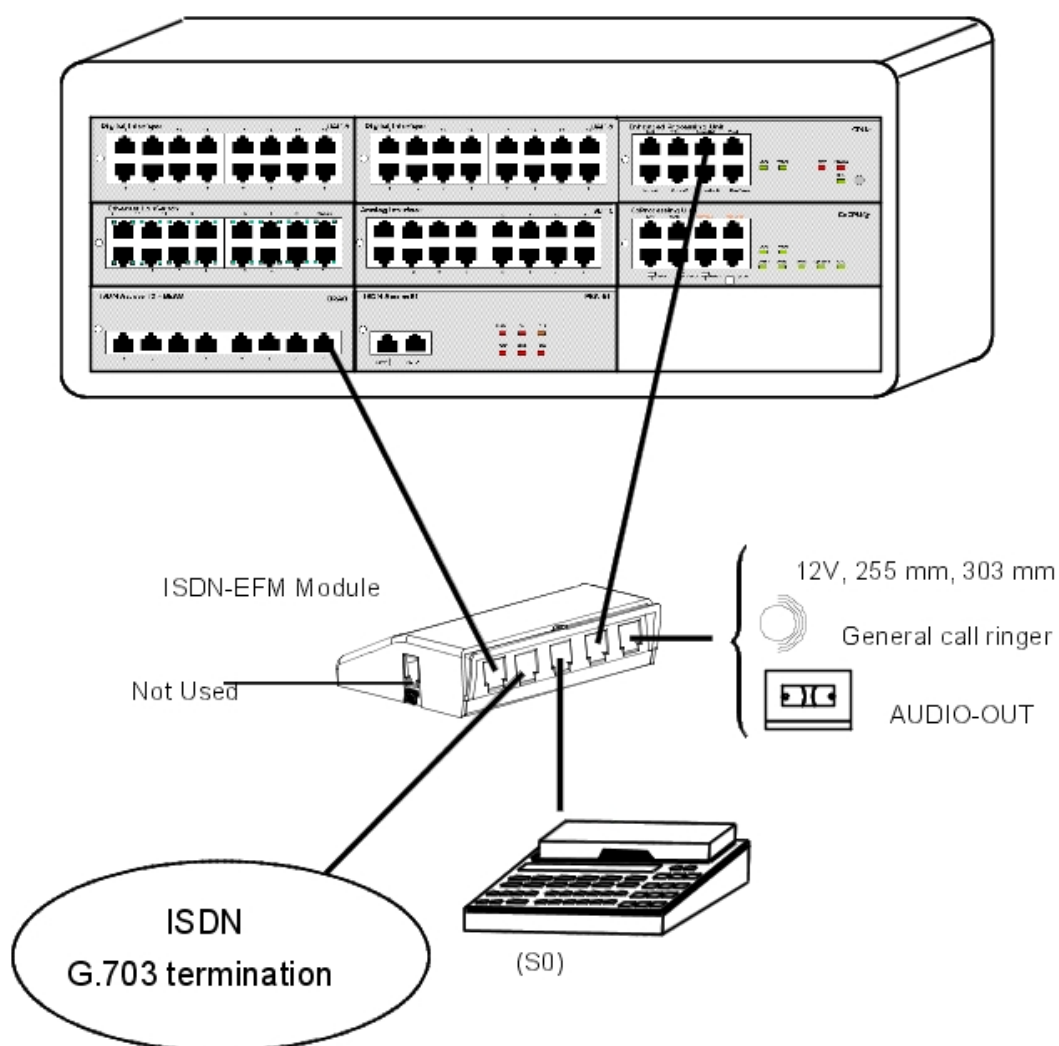
The AFU-1 board (daughter board of the CPU board) must obligatorily be fitted to detect the absence of power.



The ISDN-EFM box must be installed as close as possible to the system (3 m maximum). All the box connections are made with straight RJ45-RJ45 cables.

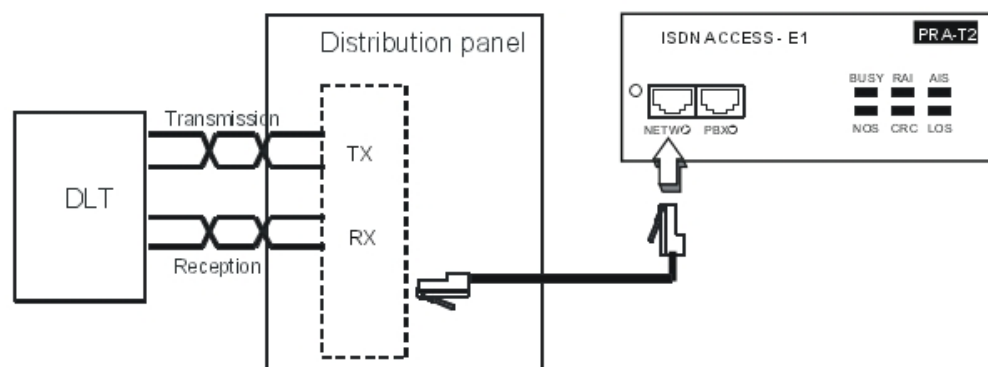
Output connector functions:

- **BRA**: connection of T0 access to be forwarded.
- **NT**: Connection of ISDN network termination.
- **S0**: connection of forwarding S0 station.
- **CPU**: connection of the AUDOUT connector of the CPU board.
- **AUX**: connection of Audio out, Alarm, General bell and 12 V use auxiliaries; since AUX is a copy of the CPU/CPUe board's AUX1, see sheet "CPU/CPUe boards" for connection recommendations.



4.2.1.5.2 Digital Public Network by T1 or T2 access

The diagram below shows a PRA-T2 board, but is equally applicable for a PRA-T1 board.



The PRA board is connected to a digital line termination (DLT) by 2 symmetrical twisted pairs.

Cable impedance: 120 Ohms +/- 20% between 200kHz and 1MHz; 120 Ohms +/- 10% at 1 MHz.

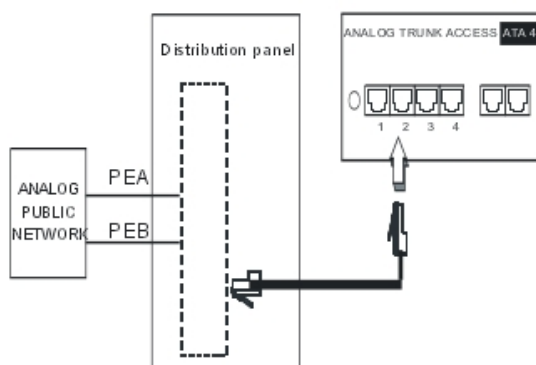
Remark:

We recommend using an L120-series cable (or the L204 equivalent).

The distance T1-DLT or T2-DLT is limited by the amount of loss between the DLT and T1/T2, which must not exceed 6 dB at 1024 kHz.

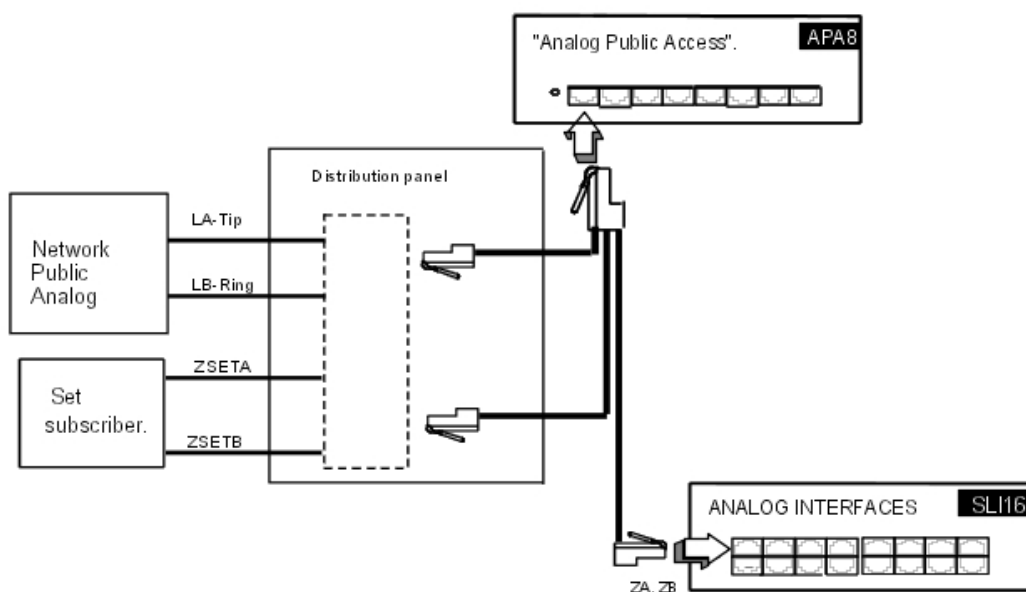
4.2.1.5.3 Analog public network

Without TL forwarding

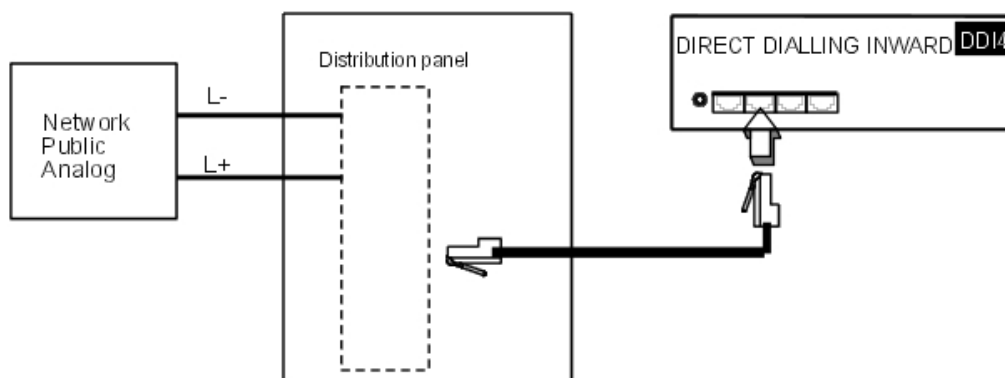


With LR forwarding

In the event of a loss of tension or CPU malfunction, this solution allows forwarding of the analog line, connected to the APA board's equipment 1, to an analog station.

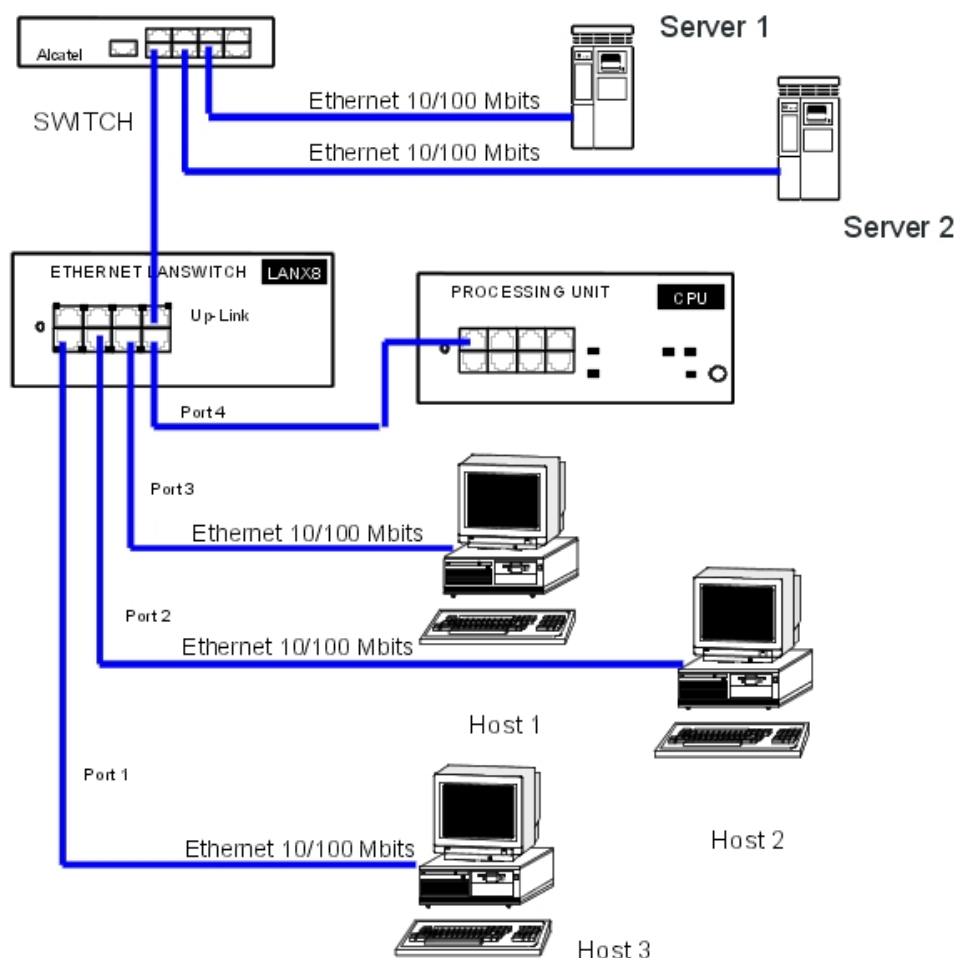


4.2.1.5.4 Analog Public Network - Direct Dialing In.



4.2.1.6 LAN CONNECTION

The LANX8/LANX16 board is used to connect servers, PCs, IP terminals and external switches.



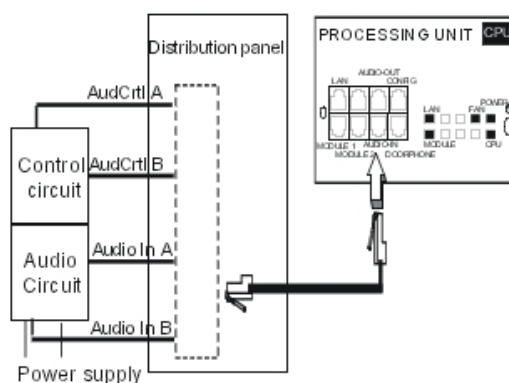
Category 5 cable, FTP or STP, impedance 100 Ohms: maximum length 100 m.

4.2.1.7 CONNECTING AUXILIARY EQUIPMENT

All auxiliary equipment is connected via the AUDIO-IN, AUDIO-OUT and DOORPHONE connectors of the CPUe-1, CPUe-2, CPU-1, CPU-2, and CPU-3 boards.

4.2.1.7.1 Connecting a Please-Wait message player

This is connected via the **AUDCTRL** output (control contact open when idle) and the **AUDIN** input of the AUDIO-IN connector.



Audio input characteristics:

Input impedance : 600 Ohms

Fuse characteristics:

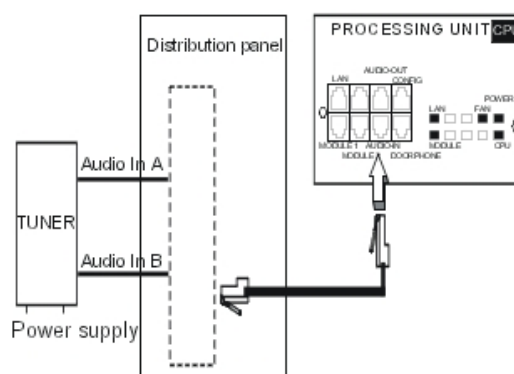
- Max. power : 10 W
- Max. voltage : 60 V
- Max. current : 500 mA



The contacts of the alarm and doorphone controls have the same electrical characteristics as those indicated above.

4.2.1.7.2 Connecting a background music tuner

This is connected via the **AUDIN** input of the AUDIO-IN connector.



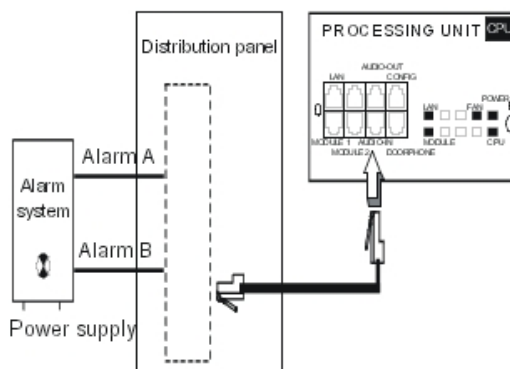
Audio input characteristics:

- Input impedance : 600 Ohms
- Input level: access + 4.7 dBr or + 15 dBr

4.2.1.7.3 Connecting an alarm

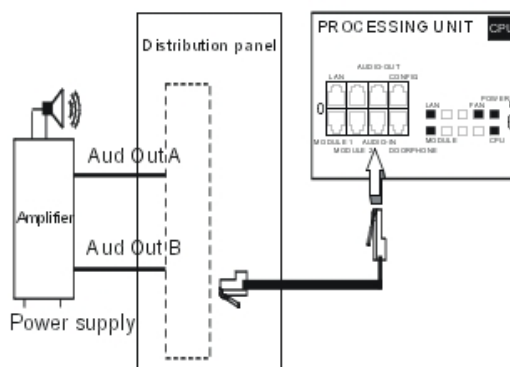
The alarm is activated in the event of a false stopping of the system.

It is connected via the **ALARM** output (control contact closed when idle) of the AUDIO-IN connector.



4.2.1.7.4 Connecting a broadcast loudspeaker

Broadcast loudspeakers are connected via the **AUDOUT** output of the AUDIO-OUT connector.

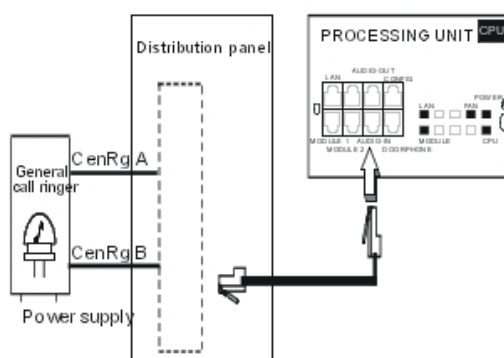


Audio output characteristics:

- Output impedance: < 500 Ohms
- Output level: access + 3 dBr

4.2.1.7.5 Connecting a general ringer

The general ringer is connected via the **CENRG** output of the AUDIO-OUT connector.



4.2.1.7.6 Connecting a doorphone

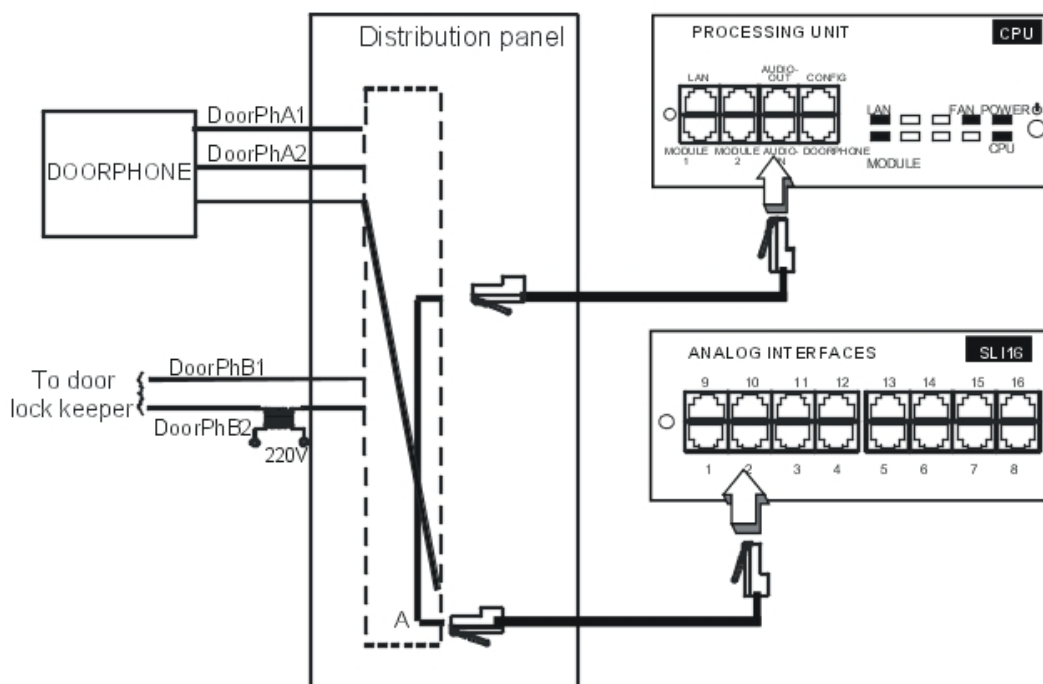
2 doorphone types are available, depending on the operating mode used:

- Type A: relay-controlled doorphones (e.g. NPTT)
- Type B: doorphones controlled by MF Q23 signals requiring an SLI interface (e.g. TELEMUNI and UNIVERSAL DOORPHONE)

The doorphone interface comprises an intercom and an optional latch powered by the mains supply through a SELV (Safety Extra Low Voltage) transformer.

It is connected via the **DOORPHA** and **DOORPHB** outputs (control contacts open when idle) of the DOORPHONE connector.

Connecting an NPTT doorphone

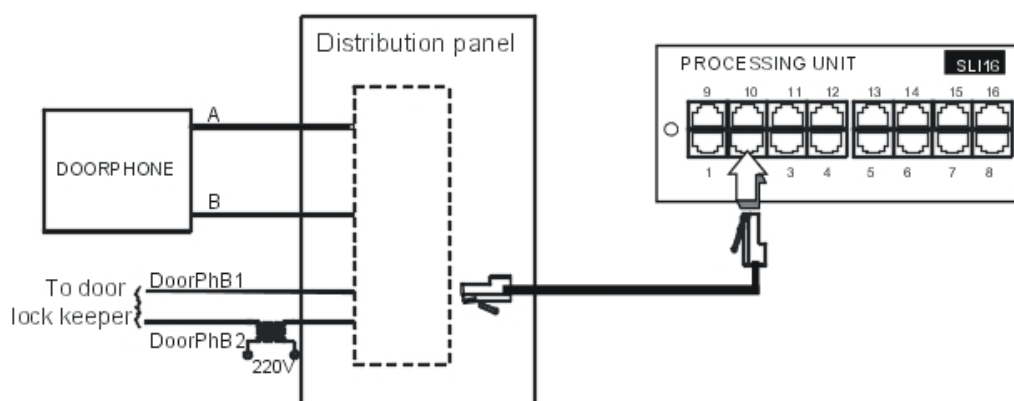


- A single doorphone with doorstrike may be connected to the system.
- The system also allows for the connection of 2 doorphones without latch.

Connecting an NPTT doorphone

These doorphones require the use of a Z station interface.

- Several of these doorphones can be connected to the system; the limit is determined by the maximum number of analog stations the system can support.



4.2.1.7.7 Using the 12V output

The **GROUND** and **+ 12V** outputs on the AUDIO-OUT connector allow for the connection of an external 12V device with a maximum energy consumption of 150 mA (Rack 1 and Rack 2) or 300 mA (Rack 3).

4.3 Power Supply

4.3.1 Installation procedure

4.3.1.1 CONNECTING AN EXTERNAL EPS48 POWER SUPPLY

The UAI16-1 board can optionally be powered by an external EPS48 power supply depending on the requirements for remotely powering the terminals.

The mains socket for the external EPS48 power supply must be installed as near as possible to the system and be easily accessible.

Caution:

Only use the recommended power supply provided. It is guaranteed to operate at 40#C for a current load of 0.85A. Its use is limited to UAI16-1 boards.



The power supply lead is used as the master switch. The power supply socket must be located or installed close to the hardware and allow easy access.



The power supply cord is used as the main disconnect device, ensure that the

socket-outlet is installed near the equipment and is easily accessible.

4.3.1.2 BATTERY IMPLEMENTATION

Alcatel-Lucent OmniPCX Office Communication Server is supplied with one or more integrated batteries; they are mounted and fixed with a solid bar on the rear plate.

Caution:

Alcatel-Lucent OmniPCX Office Compact Edition does not have integrated batteries.

4.3.1.2.1 Battery switch

The batteries are disconnected during transport using a switch soldered onto the power supply board. When the mains cable is inserted in the socket, the switch is closed by a lever incorporated in the mains socket.

4.3.1.2.2 Battery fuse

The battery fuse is located on the board and requires the back panel to be dismantled to gain access. It has the following characteristics:

- Rack1 and Rack3: 6.3 A fast, low cutoff (F 6.3 AL/250 V).
- Rack2: 10 A fast, low cutoff (F 10 AL/250 V)

4.3.1.2.3 Battery replacement

Refer to the Maintenance form in the manual.

4.3.1.3 CONNECTING AN EXTERNAL BATTERY UNIT

Alcatel-Lucent OmniPCX Office Communication Server hardware units (L, M, S and Alcatel-Lucent OmniPCX Office Compact Edition) can be powered by external batteries. The use of external batteries is an alternative to the UPS solution. It ensures that the Alcatel-Lucent OmniPCX Office Communication Server systems are backed up. This solution offers a maximum autonomy of 8 hours.

4.3.1.3.1 Alcatel-Lucent OmniPCX Office Communication Server units that accept external batteries

The following units can be powered by external batteries:

Unit (with power supply)	Reference
Unit Alcatel-Lucent OmniPCX Office Compact Edition	3EH 08271 AA
Unit S (Small) with 110-230V power supply	3EH 08227 AA
Unit M (Medium) with 230V power supply	3EH 08228 AA
Unit M (Medium) with 110V power supply	3EH 08228 AB
Unit L (Large) with 230V power supply	3EH 08229 AA
Unit L (Large) with 110V power supply	3EH 08229 AB



Before using external batteries, first remove any internal batteries installed in the unit (supplied in the S, M and L units by default).

4.3.1.3.2 Hardware

External battery units are available in different versions. The required version depends on your Alcatel-Lucent OmniPCX Office Communication Server unit, as shown in the table below.

Alcatel-Lucent OmniPCX Office Communication Server unit	External battery unit	Battery capacity	Reference
L (Large)	36V, rack version	Up to 6 batteries	3EH 76155 AB
	36V, stack version	Up to 6 batteries	3EH 76177 AC
M (Medium)	12V, rack version	Up to 3 batteries	3EH 76155 AA
S (Small)	12V, stack version	Up to 3 batteries	3EH 76177 AB
Alcatel-Lucent OmniPCX Office Compact Edition	12V, 4-hour, stack version	1 battery	3EH 76177 AA
	12V, 8-hour, stack version	Up to 2 batteries	3EH 76177 AD

Note:

The external battery units for Alcatel-Lucent OmniPCX Office Communication Server units L, M and S are pre-wired and delivered with inter-battery connectors.

In addition, you will need:

- 12V - 7Ah batteries (reference: 3EH 76156 AA)
- A connection kit (reference: 3EH 75031 AA) for connecting the external battery unit to the Alcatel-Lucent OmniPCX Office Communication Server unit.

4.3.1.3.3 New power supply reference

Type	Reference
110-230V power supply for S model	3EH 05009 AC
230V power supply for M model	3EH 05012 AC
110V power supply for M model	3EH 05010 AC
230V power supply for L model	3EH 05013 AC
110V power supply for L model	3EH 05011 AC

4.3.1.3.4 Installation of external batteries for S, M and L systems

You must first prepare the external battery unit for use and then connect this unit to the system. These two phases of installation are presented separately below.

You will have to choose the appropriate preparation procedure, according to whether you have a rack or stack version of the external battery unit.

The connection procedure is the same for Alcatel-Lucent OmniPCX Office Communication Server M and L systems, but is different for S systems.

Preparing an external battery unit (rack version)

Before starting the installation, note that:

- External batteries must be of the same type, must be supplied by the same manufacturer and be from the same batch run.

- Batteries must be charged prior to installation.

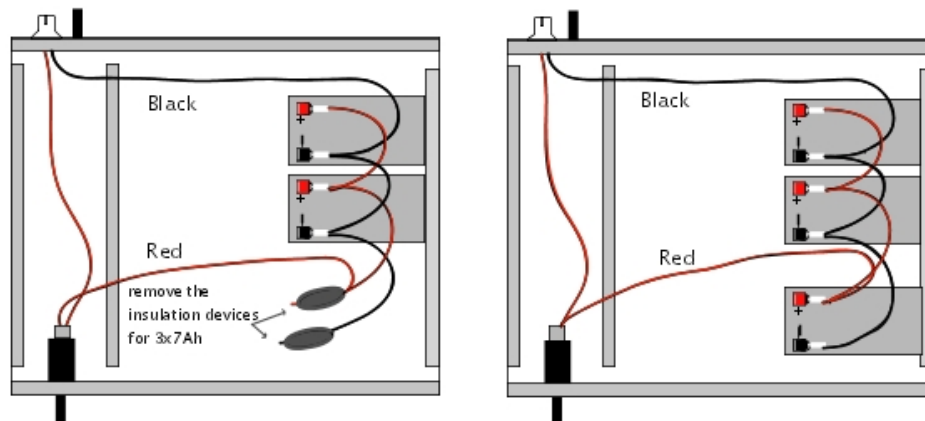


Figure 4.24: Wiring diagram of a 12V external battery rack unit (2 or 3x7Ah in parallel)

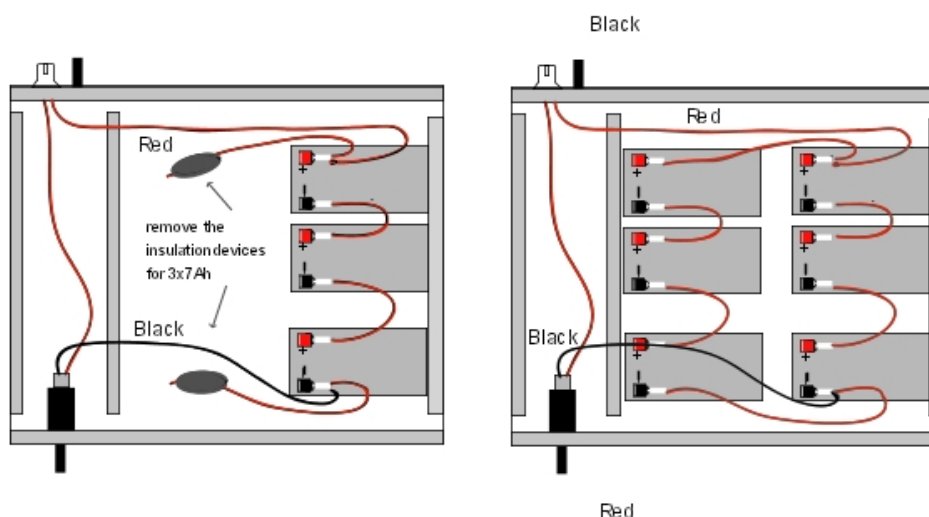


Figure 4.25: Wiring diagram of a 36V external battery rack unit (1 or 2x7Ah in parallel)



This type of unit is only used for an Alcatel-Lucent OmniPCX Office Communication Server L model.

Procedure

Position the 12V - 7Ah external batteries in the battery rack unit (maximum 3 batteries for an M model and 6 batteries for an L model).

1. Open the external battery unit and position the batteries vertically in the unit.
2. Make all the connections after having removed, if necessary, the insulation devices from the connectors that are used.

3. Place the batteries flat in the unit and close it.
4. Turn off the switch, and check the battery voltage directly on the connector at the rear of the unit.

Preparing an external battery unit (stack version)

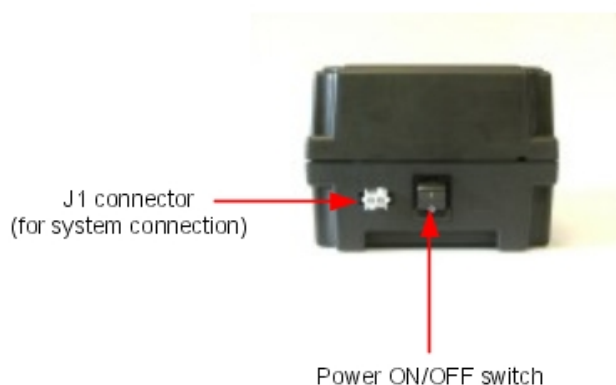
Before starting the installation, note that:

- External batteries must be of the same type, must be supplied by the same manufacturer and be from the same batch run.
- Batteries must be charged prior to installation.

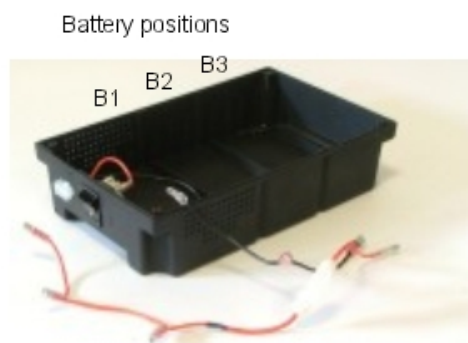
Procedure for 12 V stack version (for S and M systems)

The 12 V stack version of the external battery unit can be used with S and M systems. It uses 12V - 7Ah batteries. Either one battery or three batteries can be installed in the unit.

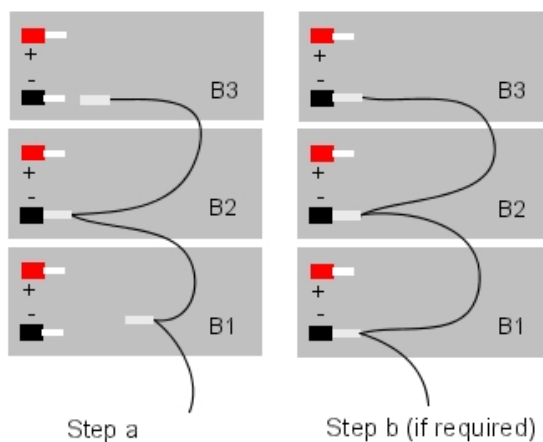
1. Ensure that the ON/OFF switch on the external battery unit is set to the OFF position (0 or black) and that there is no cable connected to the J1 connector (see the figure below).



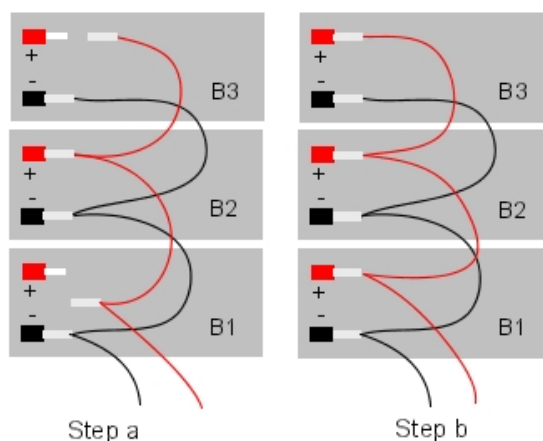
2. Open the unit by removing the four screws (ST3.5x32) with a screwdriver (Phillips PH2).
3. Insert the batteries in the open unit as follows (also see the figure below):
 - a. Place the first battery in the middle position (battery B2).
 - b. If three batteries are to be used, place these batteries in the remaining positions (batteries B1 and B3).



4. Connect the negative (black) terminals of the batteries as described below (and shown in the figure below).
- Connect the middle connector of the black wire to the negative (black) terminal of battery B2.
 - If required, connect the other connectors of the black wire to the negative (black) terminals of batteries B1 and B3.



5. Connect the positive (red) terminals of the batteries as described below (and shown in the figure below).
- Connect the middle connector of the red wire to the positive (red) terminal of battery B2.
 - If required, connect the other connectors of the red wire to the positive (red) terminals of batteries B1 and B3.

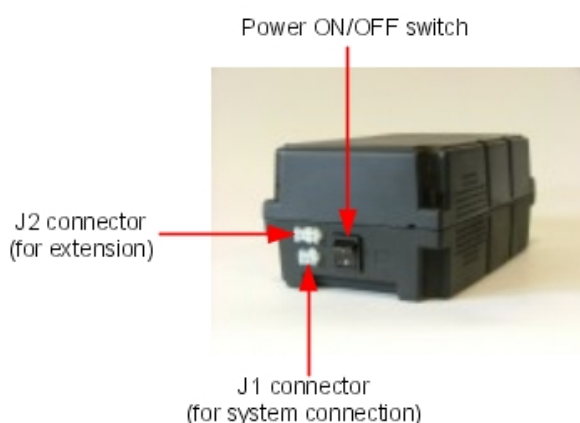


6. Close the unit and secure it with the four screws.
7. Stick a label on the unit stating the date of the installation and the number of batteries installed.

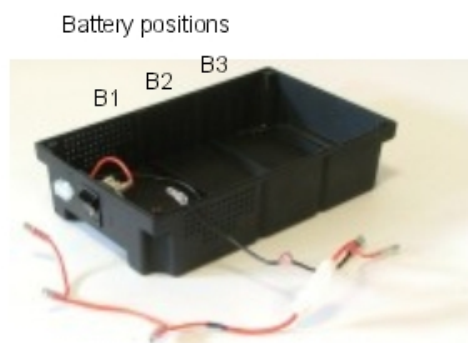
Procedure for 36 V stack version (for L systems)

The 12 V stack version of the external battery unit can be used with L systems. It uses three 12V - 7Ah batteries. Two external battery units can be connected in parallel to obtain the autonomy achieved with six batteries.

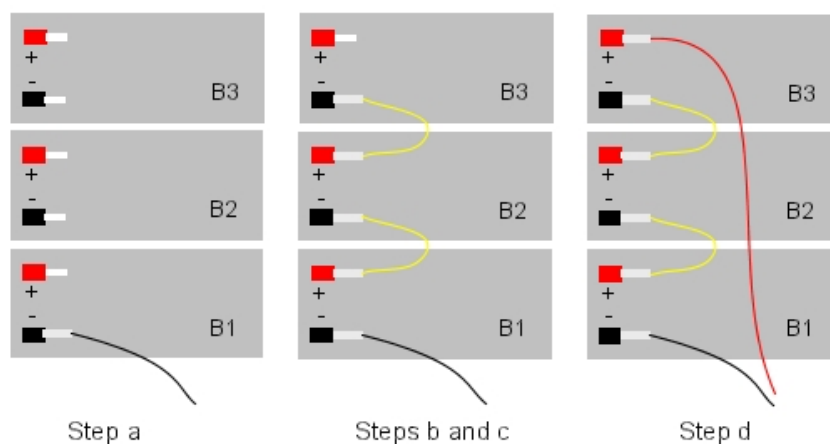
1. Ensure that the ON/OFF switch on the external battery unit is set to the OFF position (0 or black) and that there is no cable connected to the unit (see the figure below).



2. Open the unit by removing the four screws (ST3.5x32) with a screwdriver (Phillips PH2).
3. Insert the three batteries in the open unit, into the positions B1, B2 and B3 (see the figure below).

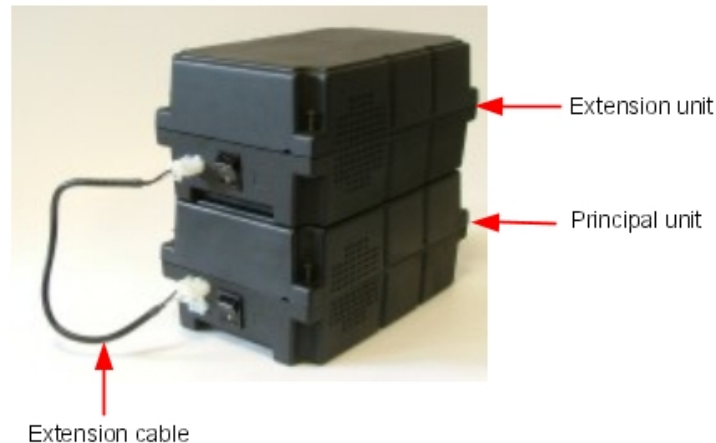


4. Connect the terminals of the batteries strictly in the order detailed below (also see the figure below).
 - a. Connect the black wire to the negative (black) terminal of battery B1.
 - b. Connect a yellow wire between the positive (red) terminal of battery B1 and the negative (black) terminal of battery B2.
 - c. Connect a yellow wire between the positive (red) terminal of battery B2 and the negative (black) terminal of battery B3.
 - d. Connect the red wire to the positive (red) terminal of battery B3.




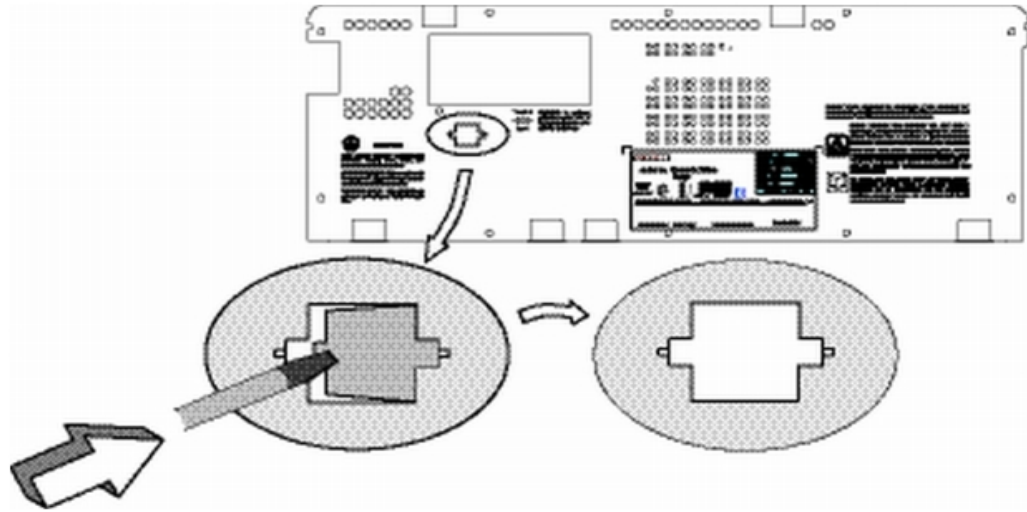
5. Close the unit and secure it with the four screws.
6. Stick a label on the unit stating the date of the installation and the number of batteries installed.
7. If you wish to use two external battery units in parallel, continue as follows (also see figure below):
 - a. Place the two units side by side, or one on top of the other.
 - b. Decide which unit is to be the principal unit and which is to be the extension unit.

- c. Connect the two units using the extension cable between the J2 connectors on the units; the cable's Mate-N-Lok 3-terminal connector must be connected to the principal unit and its Mate-N-Lok 2-terminal connector must be connected to the extension unit.

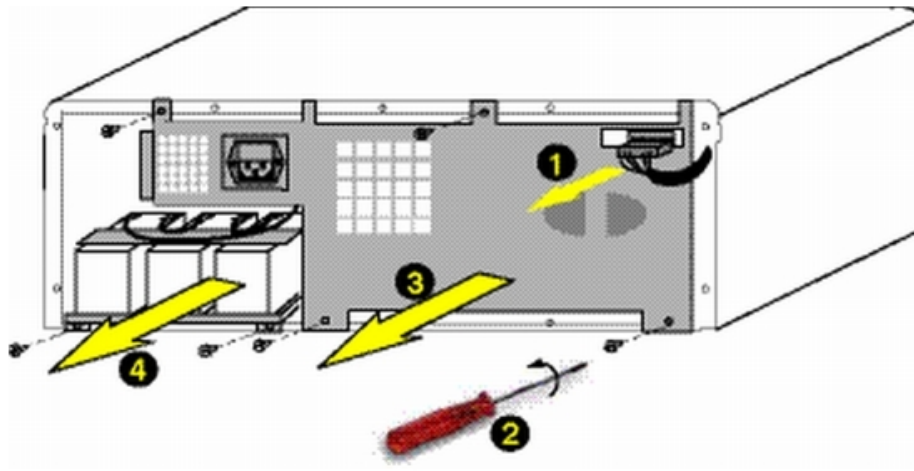


Installation of external batteries for the M and L units

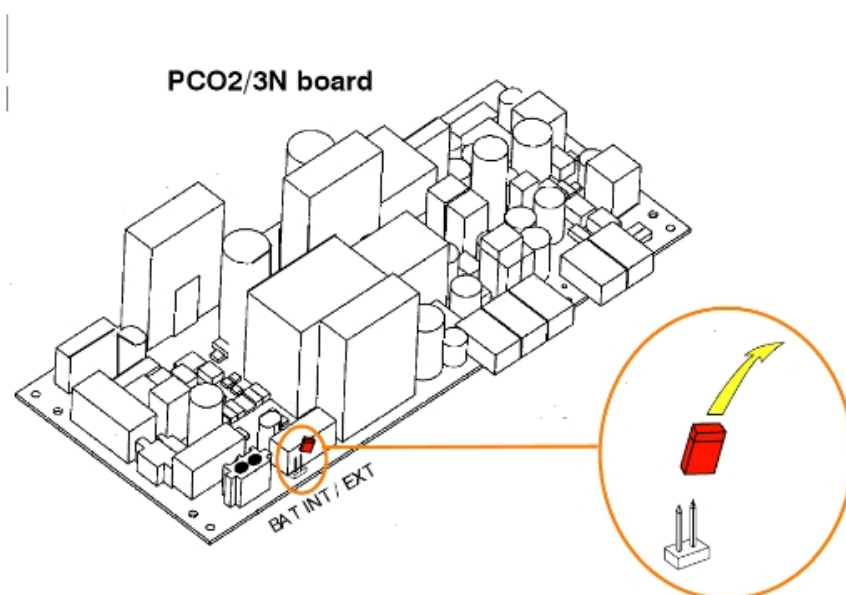
1. Stop the Alcatel-Lucent OmniPCX Office Communication Server system, and remove the power supply cord from the system side.
Disconnect the power supply cable on the system side before handling the power supply. This operation disconnects the mains supply and the internal battery.
 **Disconnect the mains inlet on the system side before manipulating the power supply. This process disconnects the mains and the internal battery.**
2. Remove the metal panel at the rear.
3. Remove the cover from the hole provided for the connecting cable on the rear panel of the Alcatel-Lucent OmniPCX Office Communication Server.



4. Remove the fan connector, then remove the power supply unit and the battery unit.





5. Replace the battery cable with the new cable provided with the connection kit (3EH 75031 AA).
6. If the BAT IN/EXT connector is present, remove the red jumper.

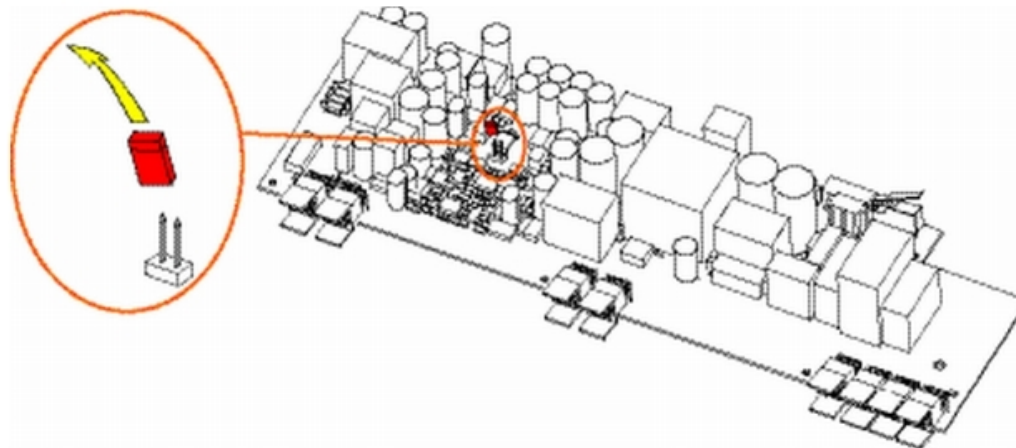


7. Remove the mounting clip and the batteries from the internal battery support.
8. Put the empty battery support and the power supply unit back in place, and reconnect the fan connector.
9. On the rear panel, plug the connector into the slot at the back. Secure the ferrite using the bracket and the self-adhesive base.
10. Put the rear panel back in place and stick the label provided beneath the connector. The labels have the following texts:
 - "EXTERNAL BATTERY 12VDC/8A" for unit M,
 - "EXTERNAL BATTERY 36VDC/3.5A" for unit L.
11. Connect the cable (with J1 connector) between the Alcatel-Lucent OmniPCX Office Communication Server system and the external unit.
12. Set the ON/OFF switch on the external battery unit to the ON position (I or red).
13. Leave the batteries to charge for at least one hour.
14. Test the autonomy of the system by disconnecting the external battery unit from the mains supply for one minute. During this time, check that the system is still powered.

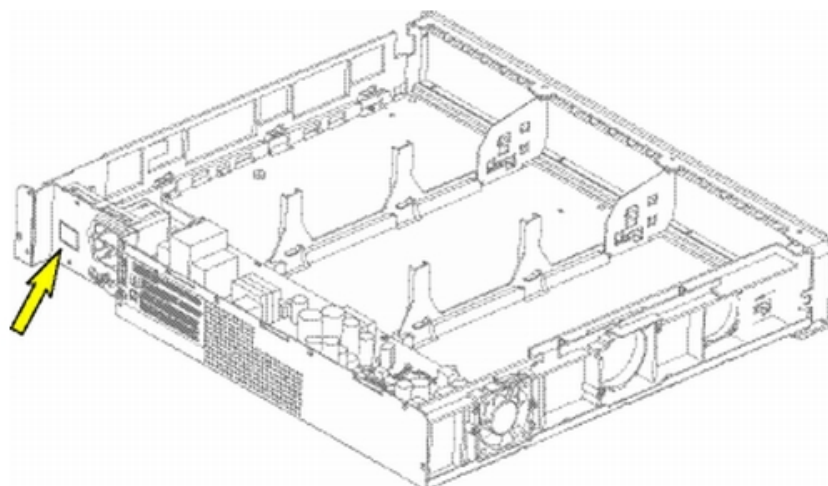
Installation of external batteries for the S units

1. Stop system, and remove the power supply cord from the system side.
 **Disconnect the power supply cable on the system side before handling the power supply. This operation disconnects the mains supply and the internal battery.**
 **Disconnect the mains inlet on the system side before manipulating the power supply. This process disconnects the mains and the internal battery.**
2. Use a screwdriver to remove the upper panel.
3. Remove the battery and its cable.

4. If the BAT IN/EXT connector is present, remove the red jumper.



5. Remove the cover from the hole provided for the connecting cable on the rear panel of the Alcatel-Lucent OmniPCX Office Communication Server and stick the "EXTERNAL BATTERY 12VDC/8A" label.



6. Connect the cable provided with the installation kit, and plug the connector into the rear panel and the slot. Secure the ferrite using the bracket and the self-adhesive base in the battery housing.
7. Put the upper cover back in place.
8. Connect the cable (with J1 connector) between the Alcatel-Lucent OmniPCX Office Communication Server system and the external unit.
9. Set the ON/OFF switch on the external battery unit to the ON position (I or red).
10. Leave the batteries to charge for at least one hour.
11. Test the autonomy of the system by disconnecting the external battery unit from the mains supply for one minute. During this time, check that the system is still powered.

4.3.1.3.5 Installation of external batteries for the Alcatel-Lucent OmniPCX Office Compact Edition

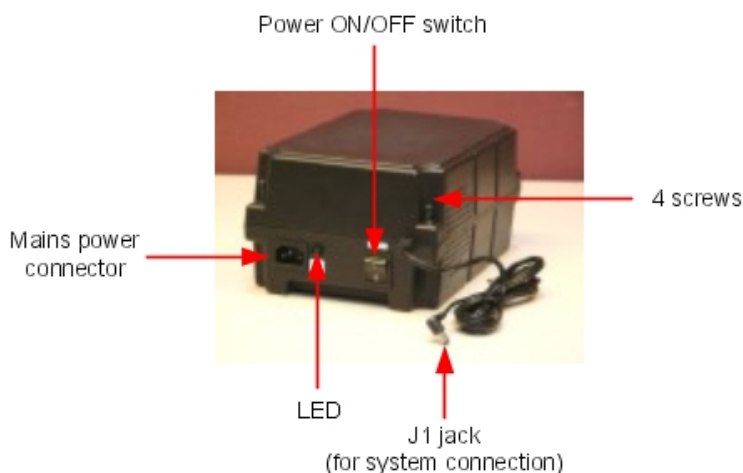
You must first prepare the external battery unit for use and then connect this unit to the Alcatel-Lucent OmniPCX Office Compact Edition unit. These two phases of installation are presented below in separate procedures.

Before starting the installation, note that:

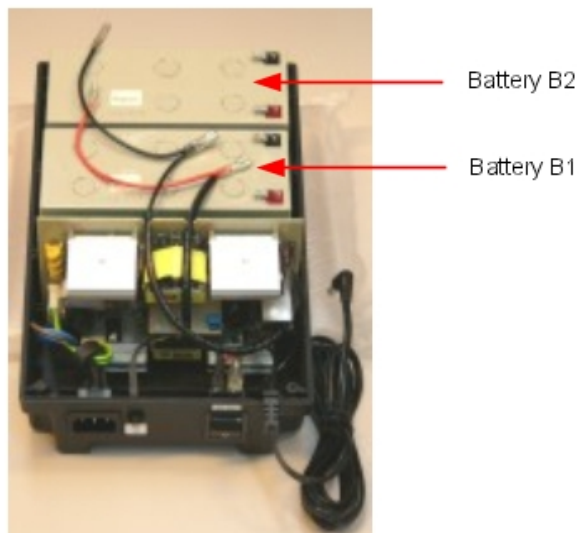
- External batteries must be of the same type, supplied by the same manufacturer and from the same batch run.
- Batteries must be charged prior to installation.

Preparing the external battery unit

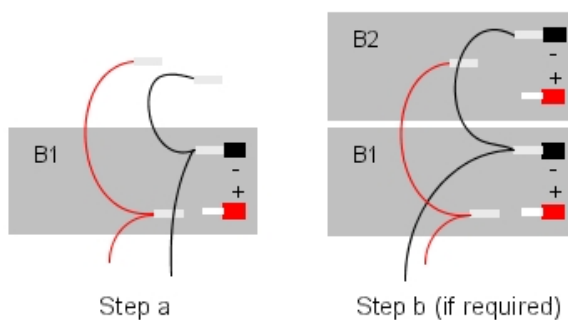
1. On the external battery unit (see the figure below):
 - a. Ensure that the mains power cable is NOT connected.
 - b. Ensure that the ON/OFF switch is set to the OFF position (O or black).
 - c. Ensure that the J1 jack is NOT connected to the Alcatel-Lucent OmniPCX Office Compact Edition unit.
 - d. Open the unit by removing the four screws (ST3.5x32) with a screwdriver (Phillips PH2).



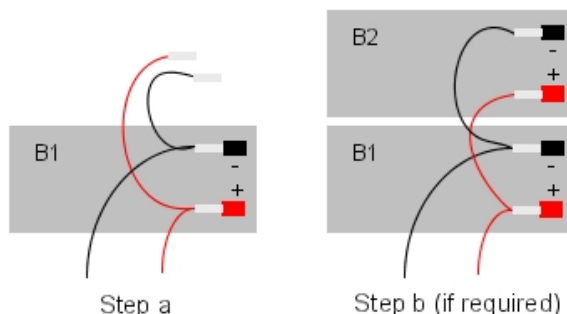
2. Insert the batteries in the open unit as follows (see the figure below):
 - a. Place the first battery in the middle position (battery B1).
 - b. If a second battery is to be used, place this battery in the remaining position (battery B2).



3. Connect the negative (black) terminals of the batteries as described below (and shown in the figure below).
 - a. Connect the middle connector of the black wire to the negative (black) terminal of battery B1.
 - b. If required, connect the end connector of the black wire to the negative (black) terminal of battery B2.



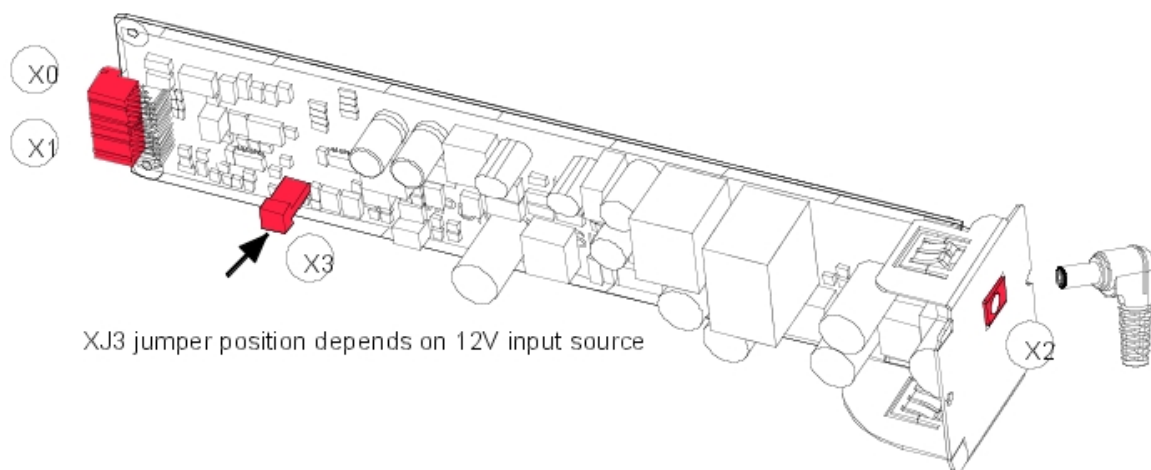
4. Connect the positive (red) terminals of the batteries as described below (and shown in the figure below). Note that there may be a small amount of electrical arcing when electrical contact is made.
 - a. Connect the middle connector of the red wire to the positive (red) terminal of battery B1.
 - b. If required, connect the end connector of the red wire to the positive (red) terminal of battery B2.



5. Close the unit and secure it with the four screws.
6. Stick a label on the unit stating the date of the installation and the number of batteries installed.

Connecting to the Alcatel-Lucent OmniPCX Office Compact Edition unit

1. Switch off the Alcatel-Lucent OmniPCX Office Communication Server system and then:
 - a. Unplug the power cable from the mains socket.
 - b. Disconnect the mains adapter from the Alcatel-Lucent OmniPCX Office Compact Edition unit.
 - c. Using a screwdriver, unscrew the power supply module (PSXS or PSXS-N) from the side of the Alcatel-Lucent OmniPCX Office Compact Edition unit and pull the module out of the cabinet.
2. Move the red extBAT jumper from the NO position to the YES position.



Note:

Since R5.0, it is possible to install a hard disk on a Alcatel-Lucent OmniPCX Office Compact Edition unit. In that case, it is MANDATORY to install the external battery unit, and the extBAT jumper of the PSXS MUST be set to YES.

3. Push the power supply module back into the cabinet and secure it in place with a screwdriver.
4. Now on the external battery unit:
 - a. Ensure that the 12V stack battery unit has been properly prepared (as above).
 - b. Ensure that the ON/OFF switch is set to the OFF position (O or black).
 - c. Connect the J1 jack from the external battery unit to the Alcatel-Lucent OmniPCX Office Compact Edition unit.
 - d. Ensure that the mains power cable is connected to the external battery unit, plug this cable into the mains supply and check that the green LED on the unit is illuminated.
 - e. Set the ON/OFF switch to the ON position (I or red).
5. Restart the system.
6. Leave the batteries to charge for at least one hour.
7. Test the autonomy of the system by disconnecting the external battery unit from the mains supply for one minute. During this time, check that the system is still powered.

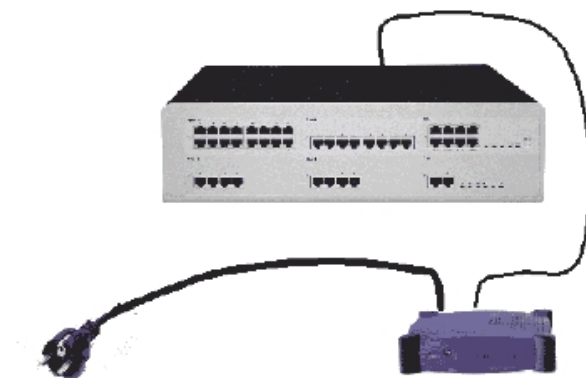
4.3.1.4 CONNECTING A UPS

Note:

This paragraph is not relevant to the Alcatel-Lucent OmniPCX Office Compact Edition unit.

A UPS (Uninterruptible Power Supply) can be used to allow system data to be saved for at least an hour in the event of mains failure.

-



It is connected via the mains socket at the rear of the unit:

- UPS Power: use the mains cable provided with the Alcatel-Lucent OmniPCX Office Communication Server module.
- UPS Connection - module: use the cable supplied with the UPS

For an installation using 3 Alcatel-Lucent OmniPCX Office Communication Server modules, 2 UPSs are required: one feeds two of the modules, the other feeds the third module.

4.3.1.5 MAINS CONNECTION - GROUND CONNECTION

4.3.1.5.1 Alcatel-Lucent OmniPCX Office Communication Server (S, M or L rack)

The connection can be made using electrical installations of the following type:

- TT (local ground for each piece of equipment).
- TN (common ground for all equipment).
- IT with inter-phase voltage of 230 V; only possible in Norway.

Mains socket fuse: T2.5 AH / 250 V (delayed action, high cutout).



So as not to compromise the fire protection feature, replace fuses with the same type of fuse having the same nominal characteristics.



For continued protection against risk of fire, replace only with same type and rating of fuse.

The system is delivered with a 3 conductor cable (length: 3 m) to connect to the mains socket.

Permanent ground

It is essential to connect the system permanently to ground due to leakage currents greater than 3.5 mA over the whole line access (safety constraint CEI60950 ed.03). To do this, use the ground wire of minimum section 4 mm² provided and connect it to the tag at the rear of the unit (left hand side).



For performance and safety reasons, the system must always be connected to the ground. The ground must be connected prior to all the other connections.



For performance and safety reasons, the whole system must always be coupled to the ground. The ground must be connected before any other connections.



The ground protection connection terminal must always be connected to the ground. Protective grounding terminal shall be permanently connected to the ground.

4.3.1.5.2 Alcatel-Lucent OmniPCX Office Compact Edition

Alcatel-Lucent OmniPCX Office Compact Edition is powered by an external power supply unit (100/240V). It is connected via a jack plug at the front of the module (right hand side).


Remarks:


- A mains cable is not supplied with the module. It must be ordered separately.
- For a more secure configuration, an AC/DC power supply, including a backup battery, can be purchased as an optional extra.


Permanent ground

It is essential to connect the system permanently to ground due to leakage currents greater than 3.5 mA over the whole line access (safety constraint CEI60950 ed.03).

To do this, use the ground wire of minimum section 2.5 mm² (not supplied) and connect it to the tag on the metal bottom of the unit (right hand side).

 For performance and safety reasons, the system must always be connected to the ground. The ground must be connected prior to all the other connections.

 For performance and safety reasons, the whole system must always be coupled to the ground. The ground must be connected before any other connections.

 The ground protection connection terminal must always be connected to the ground. Protective grounding terminal shall be permanently connected to the ground.

4.3.1.6 POWER UP

Having made all the connections, it is now time to power up the system.

- Insert the mains cable in the socket on the rear of the unit.
- Press the ON/OFF button. The system will reinitialize (duration: 3 to 4 minutes).

To stop the system:

- Press the ON/OFF button, the **RED** LED will flash.
- Wait until the LED stops flashing and is lit steadily (between 15 seconds and 3 minutes depending on the configuration): the system is switched off.

4.3.1.6.1 Power up of Alcatel Reflexes terminals

On powering up, Reflexes sets execute a self-test:

- Display Test
- Test of the LEDs or icons on the terminal and add-on module, if any
- Audio test

If this sequence is correct, the display on the Alcatel Reflexes terminals shows the system date: Monday 01 January 00h00.

After powering up, you can activate the system from an Advanced Reflexes terminal or by OMC (refer to the specific notice).

4.4 Reflexes and e-Reflexes Terminals

4.4.1 Reflexes Terminals


4.4.1.1 Installation procedure

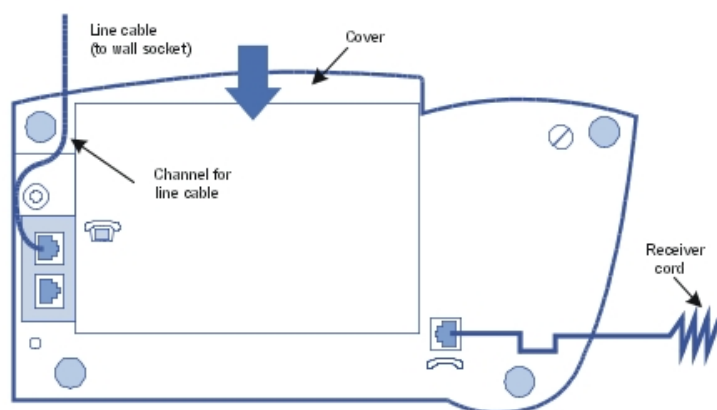
4.4.1.1.1 REMINDER: SYSTEM - Alcatel Reflexes TERMINAL SEPARATION

- SYT type 0.5 mm cable: 800 m (terminal without option) or 600 m (terminal with S0 or Z option)
- 278 type 1.6 mm cable: 1200 m (terminal without option) or 850 m (station with S0 or Z option)


4.4.1.1.2 Premium AND Advanced Reflexes TERMINALS

Attaching the line cable:

- Turn the terminal
- Remove the panel at the rear of the terminal (pull it towards the interior of the terminal and then pull it out).
- Plug in the line cable (connector ) and position it as shown in the illustration below.
- Replace the panel.



Attaching the handset cable:

- Turn the terminal
- Plug in the handset cable (connector ) into the guide intended for this purpose.

Wall mounted

Preparing Premium Reflexes terminals

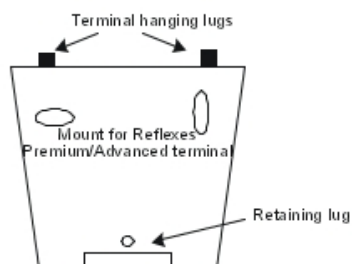
- Turn the terminal
- Use a screwdriver to remove the two upper rubber feet.

Preparing Advanced Reflexes terminals

- Turn the terminal
- Use a screw driver to remove only the left rubber foot.


Mounting the terminal

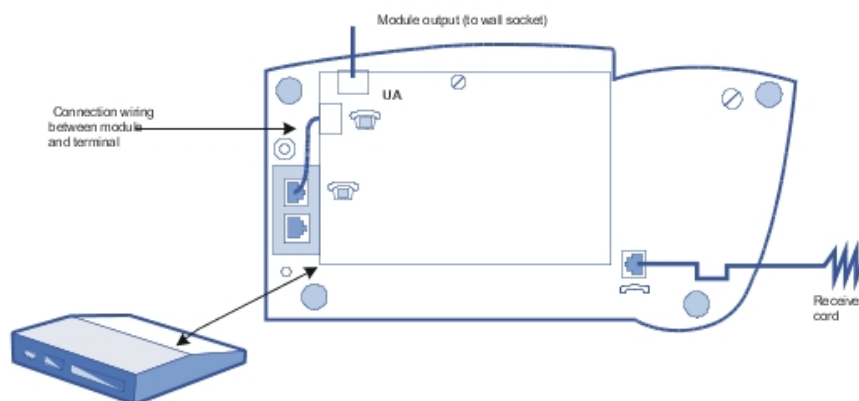
- Use the bracket as a drilling template; use the wallplugs and screws provided to attach the bracket.



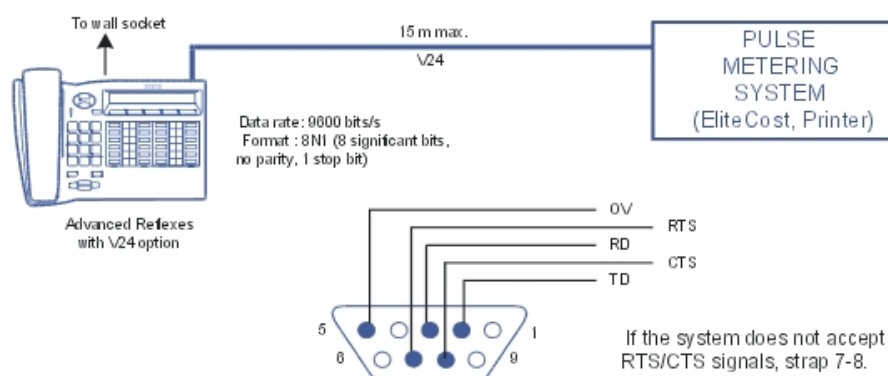
- Attach the terminal using the two lugs: introduce the lugs into the holes previously occupied by the feet (left foot and hole intended for this purpose for Advanced Reflexes terminals).
- Stabilize the mounting by clipping the foot into the base of the terminal.

Mounting optional modules:

- Turn the terminal
- Remove the panel situated at the rear of the terminal.
- Slide the module into the terminal
- Connect the module to the terminal (connector ).
- Join the module to the terminal using the 2 screws provided in the kit
- Connect the module output (connector **UA**) to the terminal's wall socket.



Example of using optional modules: connecting a charge management system

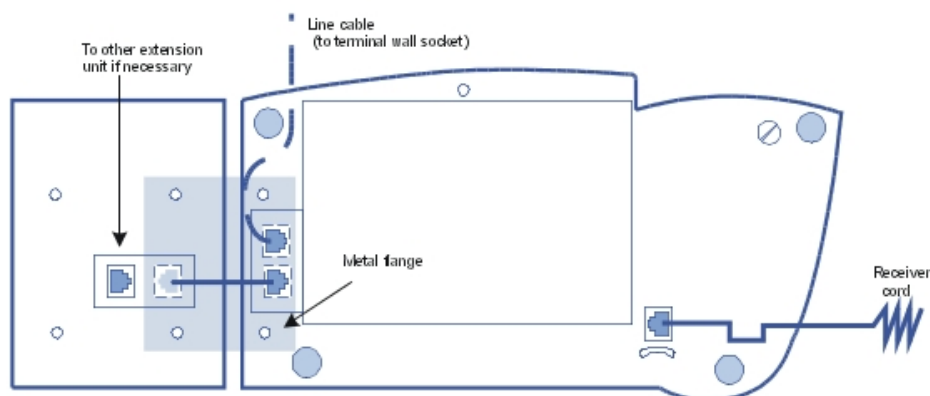


List of abbreviations

- | | |
|----------------------------|----------------------------|
| - TD: Transmit data | - RD: Receive data |
| - RTS: flow control output | - CTS: flow control output |


Adding a Sector

- Turn the set and the module upside down
- Connect the unit to the terminal.
- Join the module to the set using the metallic strip and the 4 screws provided in the kit



4.4.1.1.3 Alcatel-Lucent First AND Easy Reflexes TERMINALS

Attaching the line cable:

- Turn the terminal
- Plug in the line cable(connector ) and position it as shown in the illustration.

Attaching the handset cable:

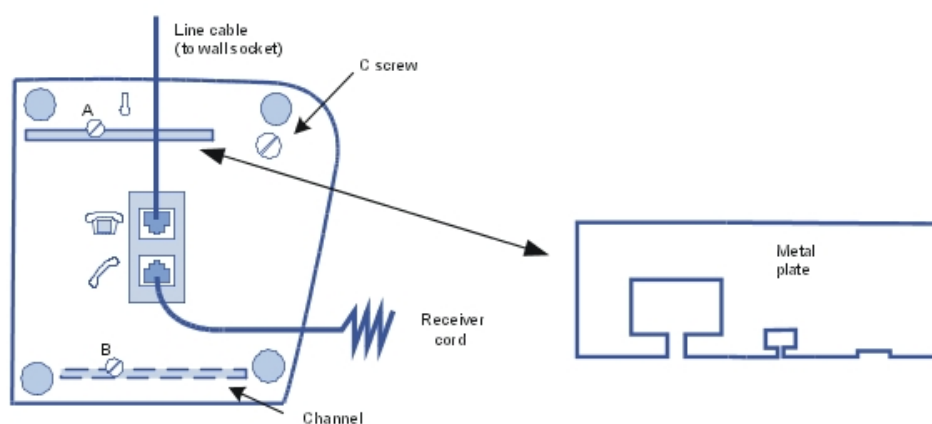
- Turn the terminal

- Plug in the handset cable (connector ) into the guide intended for this purpose.

Wall mounted

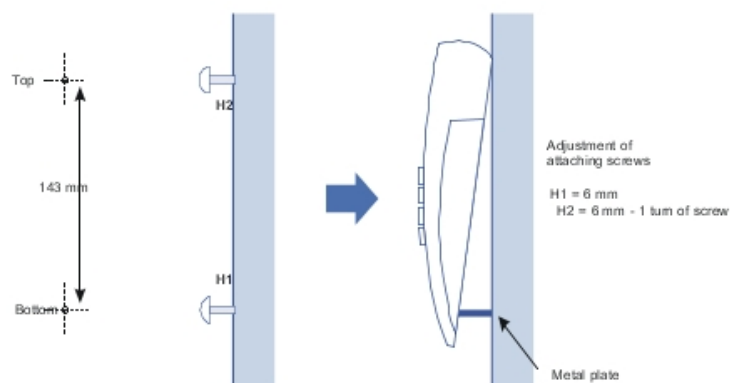
Preparing the terminal

- Turn the terminal
- Unscrew **A** and remove the metal plate.
- Slide this plate up the lower groove and secure it with screw **B**.
- Remove the handset hang-up lug by turning screw **C** through half a turn.



Mounting the terminal

- Drill two hole respecting the dimensions given below.
- Position the supporting screws as shown below.
- Attach the terminal

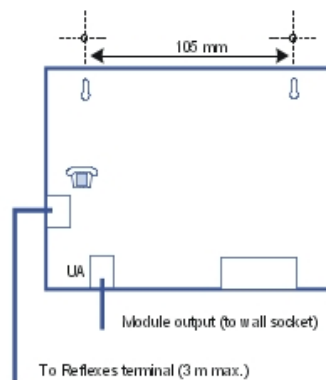


Mounting optional modules:

For Alcatel-Lucent First and Easy Reflexes terminals, the optional module is external to the terminal; this module can be placed on a table or wall mounted. The installation simply involves connection between the terminal, the module and the wall socket.

Wall mounting an optional module

- Drill two holes (separation = 105 mm, diameter = 6 mm).
- Position the fixing screws.
- Attach the module



4.4.2 E-Reflexes Terminals

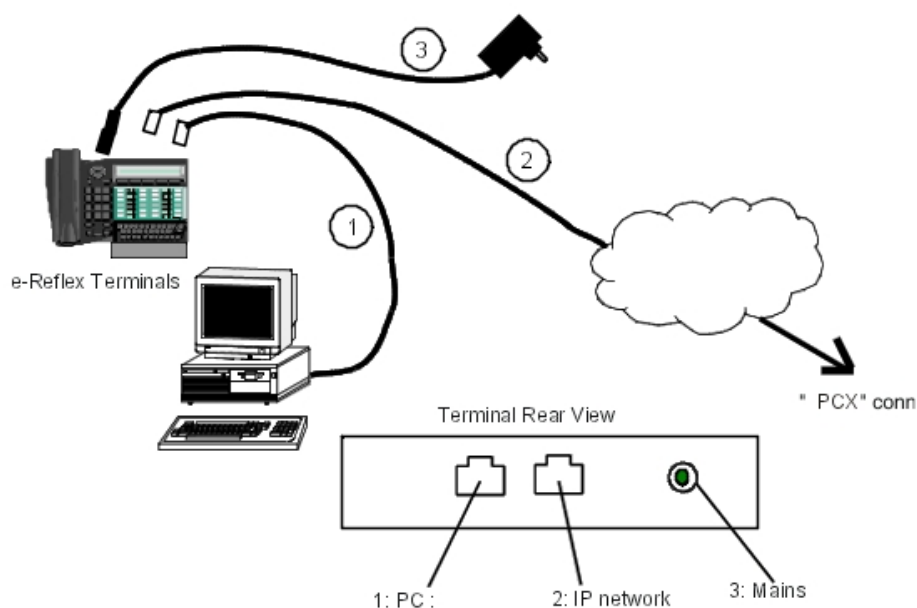
4.4.2.1 Cabling

4.4.2.1.1 Cabling diagram

3 terminal models are available that are compatible with IP and VoIP standards:

- Advanced e-Reflexes (4035IP)
- Premium e-Reflexes (4020IP)
- Easy e-Reflexes (4010IP)

CONNECTION



The e-Reflexes terminals are connected to:

1. A PC (optional). The PC is a workstation that uses the station's switch function (link through straight RJ45 cable). The connecting PC does not power; it does not exist on the Easy e-Reflexes terminal.

RJ45 pin	1	2	3	4	5	6	7	8
Outputs	TXB+	TXB-	RXB+	A1	A2	RXB-	B1	B2

2. The IP network (straight RJ45 cable).

RJ45 pin	1	2	3	4	5	6	7	8
Outputs	RXA+	RXA-	TXA+			TXA-		

3. The mains power socket for local power

Pin	1	2
Signal	A 42 V-	A 42 V+

4.4.2.2 Start-up

4.4.2.2.1 Configuration procedure

Depending on the network topology, the configuring of the IP Enablers can be:

- Completely automatic, if they are on the same subnet as Alcatel-Lucent OmniPCX Office Communication Server: simply connect the terminals to the LAN and connect the power supply unit. The DHCP server allocates the dynamic IP addresses and the TFTP server integrated into the CPU-1/CPU-2/CPU-3/CPUe-1/CPUe-2 board downloads the binary into the IP Enabler (integrated in the terminal).

- Manual, if the terminals are not connected to a same subnet as Alcatel-Lucent OmniPCX Office Communication Server, or if the DHCP server integrated into the CoCPU-1/CoCPU-2 board is deactivated: in this case the IP parameters and the TFTP server address have to be entered on the terminals.

Registering e-Reflexes terminals connected to a different subnet from the Alcatel-Lucent OmniPCX Office Communication Server

- Connect the power to the relevant terminal.
- Press **i** then **#**.
- Press **2** (IP Parameters)
- Press **1** (Static mode)
- Press **2** (IP Address). Enter the IP address of the terminal. Validate by pressing **#**.
- Press **3** (Subnet Mask). Enter the IP address of the CoCPU-1/CoCPU-2 board subnet mask. Validate by pressing **#**.
- Press **4** (Router Address). Enter the IP address of the external router. Validate by pressing **#**.
- Press **5**(TFTP Server). Enter the IP address of the CoCPU-1/CoCPU-2 board. Validate by pressing **#**.
- Press **7** (id VLAN). To switch the e-Reflexes from the mode without VLAN to the mode with VLAN (Virtual LAN), press **1** then program the VLAN value (decimal value between 0 and 4095). To deactivate the VLAN, press **1** again.

Note:

Option 6. Main CPU Address is not used).

- Press **End**.
- Press **#** to save the parameters, the terminal will display the 2 screens "Modification saved" and "IPPhone will reset" in turn before reinitializing itself:

At startup, the e-Reflexes terminal will execute six registration phases:

- Phase 1: IP initialization
- Phase 2: Downloading of the configuration file
- Phase 3: Downloading of the binary file
- Phase 4: Flashing of the binary
- Phase 5: Downloading of the starting file
- Phase 6: Establishing of IP signaling

At the end of phase 6, the station is initialized and the terminal appears in the list of the OMC stations.



The use of e-Reflexes terminals requires system configuration using OMC, that is:

- Number of VoIP channels subscribed.
- Activating/deactivating the DHCP server (dynamic allocation or manual input of IP addresses).

For more information, refer to the section Voice over IP in the product documentation.

4.5 8 Series Sets

4.5.1 IPTouch 4008/4018 Phone

4.5.1.1 Commissioning

4.5.1.1.1 Overview

This module presents all the actions required for commissioning:

- The Alcatel-Lucent IP Touch 4018 Phone set
- The Alcatel-Lucent IP Touch 4018 phone Extended Edition set

The commissioning of Alcatel-Lucent IP Touch 4018 Phone and Alcatel-Lucent IP Touch 4018 phone Extended Edition sets is identical.

The following figure illustrates the connectors on the base of the Alcatel-Lucent IP Touch 4018 Phone and Alcatel-Lucent IP Touch 4018 phone Extended Edition sets.

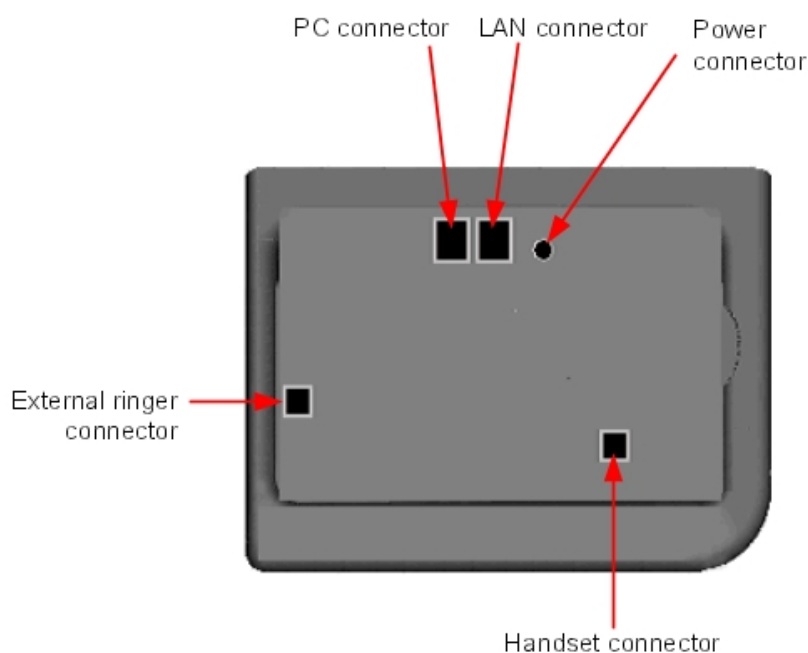


Figure 4.49: Alcatel-Lucent IP Touch 4018 Phone and Alcatel-Lucent IP Touch 4018 phone Extended Edition connectors

4.5.1.1.2 Commissioning the set

This section describes how to:

- Connect the set

- Initialize the set
- Program keys

Prerequisites

None.

Connecting the sets

This section describes how to:

- Connect an IP Touch set to the LAN (Local Area Network)
- Connect the power supply

Prerequisites

None.

Connecting an IP Touch set to the LAN

To connect the set to the LAN:

1. Turn the set over so that you can see its base.
2. Plug the RJ45 cable into the set's LAN connector.
3. Connect the RJ45 cable to the LAN itself.

Connecting power supply

The set can be supplied from two possible power sources:

- An AC/DC external adapter which is a 42V power supply
A female jack is used to connect the power adapter. The AC/DC external adapter is the same for IP Touch and e-Reflex sets.
- Power over Ethernet (PoE)
The supply via Ethernet can be implemented using a 802.3af standard-compatible switch.

To supply power via an AC/DC external adapter:

1. Plug the appropriate cable from the adapter into the set's power supply connector.
2. Connect the plug from the adapter to the mains power supply.
Initialization starts.

Initializing the sets

This section describes how to:

- Choose the initialization mode
- Initialize the IP Touch set

Prerequisites

The IP Touch set must be connected to the:

- LAN
- Power supply

Choosing the initialization mode

The default mode is dynamic mode.

To choose the initialization mode, refer to the table below.

table 4.21: Initialization modes

If	Then the required initialization mode is	And
You have a DHCP server	Dynamic mode or Proprietary dynamic mode	Refer to table: Initialization procedure In the case of Proprietary dynamic mode, the IP address of the set must be provided by the Proprietary router.
You do not have a DHCP server	Static mode	<ul style="list-style-type: none"> - Refer to table: Initialization procedure - Obtain from your network administrator: <ul style="list-style-type: none"> • An IP address for the IP Touch set • The subnet mask • The router address • The TFTP server address (master VoIP board address)

Initializing the IP Touch set

To initialize the IP Touch set, refer to the table below.

Note 1:

In each of the two cases below, you can view the IP Touch set's software version after Step 2 by selecting **Version** in the Main menu.

table 4.22: Initialization procedure

For an initialization that is	Procedure
Dynamic mode or Proprietary dynamic mode	<ol style="list-style-type: none"> 1. Connect the power supply. 2. After initialization phase 2 is completed and before phase 5 starts, press i, then the # key. <i>The Main menu appears.</i> 3. If the set was previously in static mode, choose IP Parameters from the Main menu. <i>The IP Parameters menu appears.</i> 4. Choose Dynamic and press the OK key. 5. Save by pressing the # key. 6. Exit the Main menu by pressing the * key.

Static	<ol style="list-style-type: none"> 1. Connect the power supply. 2. Before initialization phase 5 starts, press i, then the # key. <i>The Main menu appears.</i> 3. From the Main menu, choose IP Parameters. <i>The IP Parameters menu appears.</i> 4. Choose Static and press the OK key. 5. Enter the following: <ol style="list-style-type: none"> a. IP address b. Subnetwork mask c. Router address d. TFTP server address e. TFTP port (69) f. CPU address 6. Enter the required VLAN details, as follows: <ol style="list-style-type: none"> a. If required, select Use VLAN and then enter the VLAN ID number. b. Ensure that Strict VLAN is set as required. It is selected by default; de-selecting it allows you to use a DHCP server in another VLAN. 7. Save the above parameter values by pressing the # key. 8. Exit the Main menu by pressing the * key. <i>The set restarts from phase 1 with the new parameters.</i> <p><i>Note 2:</i> If an error message appears during initialization, disconnect the power adapter, then plug it in again, so that the system restarts initialization.</p>
--------	---

Restarting initialization

If you want to change a parameter value, restart initialization, as detailed below.

To restart initialization:

1. Disconnect the IP Touch set from the power supply.
2. Reconnect the power supply.
3. Execute the initialization procedure as detailed in [table: Initialization procedure](#)

Programming keys

This section describes how to program the programmable keys.

In fact, only the direct call key can be programmed (with a telephone number), which by default is the sixth programmable key. However, the Personal/Dial by name key can be programmed in a similar way.

To program a key:

1. Press the **i** key followed by the required programmable key.
2. Press one key of the 2-way navigator (up or down).
3. Enter the telephone number to be associated with this programmable key.
4. Press **OK**. The set then goes back to its default display.

Relocating and retaining IP Touch sets

This section describes how to relocate and retain the same set.

In the procedure below, it is assumed that:

- there is one DHCP server
- no VLAN has to be configured.

Prerequisites

None.

Relocating and retaining the same set

To relocate and retain the same set:

1. Unplug the set.
2. Plug the set into a connector at its new location.

4.5.1.1.3 The Alcatel-Lucent IP Touch 4008 Phone set

The Alcatel-Lucent IP Touch 4008 Phone is a cost reduction of the Alcatel-Lucent IP Touch 4018 Phone with a new transceiver and a new LAN switch.

The Alcatel-Lucent IP Touch 4008 Phone configuration is the same as the Alcatel-Lucent IP Touch 4018 Phone configuration: both sets share the same profile.

The Alcatel-Lucent IP Touch 4008 phone Extended Edition configuration is the same as the Alcatel-Lucent IP Touch 4018 Phone configuration.

4.5.2 IP Touch 4028/4038/4068 Phone

4.5.2.1 Commissioning

4.5.2.1.1 Overview

This module presents all the actions required for commissioning: .

- The Alcatel-Lucent 8 series:
 - Alcatel-Lucent IP Touch 4028 Phone
 - Alcatel-Lucent IP Touch 4038 Phone
 - Alcatel-Lucent IP Touch 4068 Phone
- The Alcatel-Lucent IP Touch 8 series phone Extended Edition:
 - Alcatel-Lucent IP Touch 4028 phone Extended Edition
 - Alcatel-Lucent IP Touch 4038 phone Extended Edition
 - Alcatel-Lucent IP Touch 4068 phone Extended Edition

The commissioning of Alcatel-Lucent 8 series and Alcatel-Lucent IP Touch 8 series phone Extended Edition is the same.

In the following paragraphs, when Alcatel-Lucent IP Touch 4028 Phone, Alcatel-Lucent IP Touch 4038 Phone and Alcatel-Lucent IP Touch 4068 Phone are mentioned, they also refer to their extended edition counterpart, unless specifically indicated.

The following figure illustrates the connectors on the base of each set.

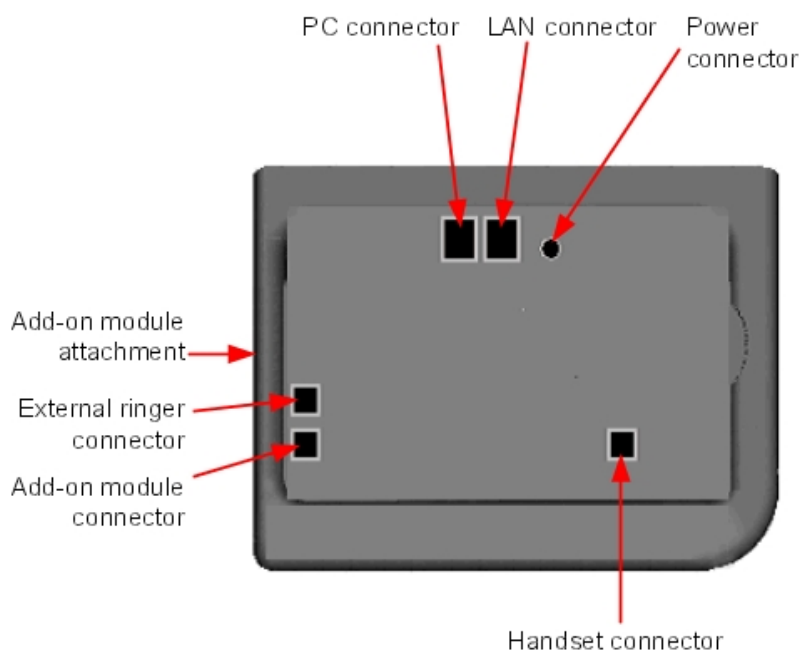


Figure 4.50: Alcatel-Lucent IP Touch 4028 Phone, Alcatel-Lucent IP Touch 4038 Phone and Alcatel-Lucent IP Touch 4068 Phone connectors

4.5.2.1.2 Commissioning the sets

This section describes how to:

- Connect the sets
- Initialize the sets
- Connect optional equipment
- Program keys

Prerequisites

None.

Connecting the sets

This section describes how to:

- Connect an IP Touch set to the LAN (Local Area Network)
- Connect the power supply

Prerequisites

None.

Connecting an IP Touch set to the LAN

To connect the set to the LAN:

1. Turn the set over so that you can see its base.
2. Plug the RJ45 cable into the set's LAN connector.
3. Connect the RJ45 cable to the LAN itself.

Connecting power supply

The set can be supplied from two possible power sources:

- An AC/DC external adapter which is a 42V power supply
A female jack is used to connect the power adapter. The AC/DC external adapter is the same for IP Touch and e-Reflex sets.
- Power over Ethernet (PoE)
The supply via Ethernet can be implemented using a 802.3af standard-compatible switch.

To supply power via an AC/DC external adapter:

1. Plug the appropriate cable from the adapter into the set's power supply connector.
2. Connect the plug from the adapter to the mains power supply.
Initialization starts.

Initializing the sets

This section describes how to:

- Choose the initialization mode
- Initialize the IP Touch set

Prerequisites

The IP Touch set must be connected to the:

- LAN
- Power supply

Choosing the initialization mode

The default mode is dynamic mode.

To choose the initialization mode, refer to the table below.

table 4.23: Initialization modes

If	Then the required initialization mode is	And
You have a DHCP server	Dynamic mode or Proprietary dynamic mode	Refer to table: Initialization procedure In the case of Proprietary dynamic mode, the IP address of the set must be provided by the Proprietary router.

You do not have a DHCP server	Static mode	<ul style="list-style-type: none"> - Refer to table: Initialization procedure - Obtain from your network administrator: <ul style="list-style-type: none"> • An IP address for the IP Touch set • The subnetwork mask • The router address • The TFTP server address (master VoIP board address) <p><i>Note:</i> You need to know your set's directory number.</p>
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Initializing the IP Touch set

To initialize the IP Touch set, refer to the table below.

[table 4.24: Initialization procedure](#)

For an initialization that is	Procedure
Dynamic mode or Proprietary dynamic mode	<ol style="list-style-type: none"> 1. Connect the power supply. 2. Before initialization phase 5 starts, press i, then the # key. <i>The Main menu appears.</i> 3. If the set was previously in static mode, choose IP Parameters from the Main menu. <i>The IP Parameters menu appears.</i> 4. Choose Dynamic. 5. Save by pressing the soft key in the upper left part of the display. 6. Exit the Main menu by pressing the soft key in the upper right part of the display.

Static	<ol style="list-style-type: none"> 1. Connect the power supply. 2. Before initialization phase 5 starts, press i, then the # key. <i>The Main menu appears.</i> 3. From the Main menu, choose IP Parameters. <i>The IP Parameters menu appears.</i> 4. Choose Static. 5. Enter the following: <ol style="list-style-type: none"> a. IP address b. Subnetwork mask c. Router address d. TFTP server address e. TFTP port (69) f. CPU address 6. Enter the required VLAN details, as follows: <ol style="list-style-type: none"> a. If required, select Use VLAN and then enter the VLAN ID number. b. Ensure that Strict VLAN is set as required. It is selected by default; de-selecting it allows you to use a DHCP server in another VLAN. 7. Save by pressing the soft key in the upper left part of the display. 8. Exit the Main menu by pressing the soft key in the upper right part of the display. <i>The set restarts from phase 1 with the new parameters.</i> <p><i>Note:</i> If an error message appears during initialization, disconnect the power adapter, then plug it in again, so that the system restarts initialization.</p>
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Restarting initialization

If you want to change a parameter value, restart initialization, as detailed below.

To restart initialization:

1. Disconnect the IP Touch set from the power supply.
2. Reconnect the power supply.
3. Execute the initialization procedure as detailed in [table: Initialization procedure](#)

Connecting optional equipment

This section describes how to:

- Connect an Add-On module (AOM) to the sets
- Connect a headset
- Connect an external station speaker

Connecting an Add-On module to the sets

Add-On Modules (AOMs) can be connected to the Alcatel-Lucent IP Touch 4028 Phone, Alcatel-Lucent IP Touch 4038 Phone and Alcatel-Lucent IP Touch 4068 Phone sets. They are added to the right side of the set.

Three types of Add-On Module exist and provide keys associated with icons:

- AOM10 provides 10 keys
- AOM40 provides 40 keys

- AOM Alcatel-Lucent 8 series and Alcatel-Lucent 9 series Smart Display Module provides 14 keys with programmable LCD labels

Prerequisites

None.

Rules and restrictions

The following rules apply to the use of Add-On Modules with the Alcatel-Lucent IP Touch 4028 Phone, Alcatel-Lucent IP Touch 4038 Phone and Alcatel-Lucent IP Touch 4068 Phone sets:

- A maximum of three Add-On Modules of the types AOM10 and AOM40 can be connected to each set, providing up to 120 additional keys.
- A maximum of three Smart Display Modules can be connected to each set, providing up to 42 additional keys.
- Add-On Modules of types AOM10 and AOM40 can be used on the same set, but a Smart Display Module cannot be used in conjunction with an AOM10 or AOM40.
- If an AOM10 is used with other Add-On Modules, it must be connected as the last module on the far right of the set.

Connecting Add-On Modules

To connect an Add-On Module:

1. Remove the tab located on the right side of the IP Touch set.
2. Plug the Add-On Module's RJ45 connector into the set's RJ45 connector.
3. Insert the Add-On Module attachments into the appropriate holes located on the right side of the IP Touch set.
4. Screw the Add-On Module to the IP Touch set.

Note:

If the IP Touch set is on when you plug in an Add-On Module, you must restart the set after connection.

Connecting headsets

The headset jack is located on the left side of the set.

The 3.5 mm female jack can receive a headset jack.

The hands-free key allows you to switch from handset to headset.

Prerequisites

None.

Connecting a headset

To connect a headset, simply plug the headset jack into the associated connector on the side of the set.

Connecting external station speakers

The external station speaker jack is located on the left side of the IP Touch set.

The 3.5 mm female jack can receive an external station speaker jack.

In order to take the external station speaker into account, the set customization for the jack has to be set to "Loudspeaker".

Prerequisites

None.

Connecting an external station speaker

To connect an external station speaker, plug the external station speaker jack into the associated connector on the side of the set.

Programming keys

This section describes how to program a programmable key from the:

- F1/F2 keys
- Add-On Module keys (if any)
- virtual add-on keys

Two methods are presented.

Programming a key

To program a key:

1. From the **MENU** tab, select **Settings**.
The Settings menu appears.
2. From the **Settings** menu, select **Keys**.
The virtual add-on keys appear.
3. Select the key to be programmed, as follows:
 - To program a virtual add-on key, scroll using the up/down navigator keys until you reach the required virtual key and then press the corresponding soft key.
 - To program the F1 or F2 key, or a key on a connected Add-On Module, simply press this key.
4. Select **Name** and enter the name to be associated with the selected key, then press **OK**.
The desired name is associated with the key.
5. Select **Number** and enter the telephone number to be associated with the key, then press **OK**.
The desired number is associated with the key.
6. Press **Exit** to go back to home page.

Programming a key (fast customization)

You can also program a key using the following method:

1. Select the key to be programmed, as follows:
 - To program a virtual add-on key, from the **PERSO** tab press **i** followed by the required key.
 - To program the F1 or F2 key, or a key on a connected Add-On Module, from any tab press **i** followed by the required key.

2. Select **Name** and enter the name to be associated with the selected key, then press **OK**.
The desired name is associated with the key.
3. Select **Number** and enter the telephone number to be associated with the key, then press **OK**.
The desired number is associated with the key.
4. Press **Exit** to go back to the home page.

Relocating and retaining IP Touch sets

This section describes how to relocate and retain the same set.

In the procedure below, it is assumed that:

- there is one DHCP server
- no VLAN has to be configured.

Prerequisites

None.

Relocating and retaining the same set

To relocate and retain the same set:

1. Unplug the set.
2. Plug the set into a connector at its new location.

4.6 9 Series Sets

4.6.1 4019 Digital Phone

4.6.1.1 Commissioning

4.6.1.1.1 Overview

This module presents all the actions required for commissioning the Alcatel-Lucent 4019 Digital Phone set.

The following figure illustrates the connectors on the base of the set.

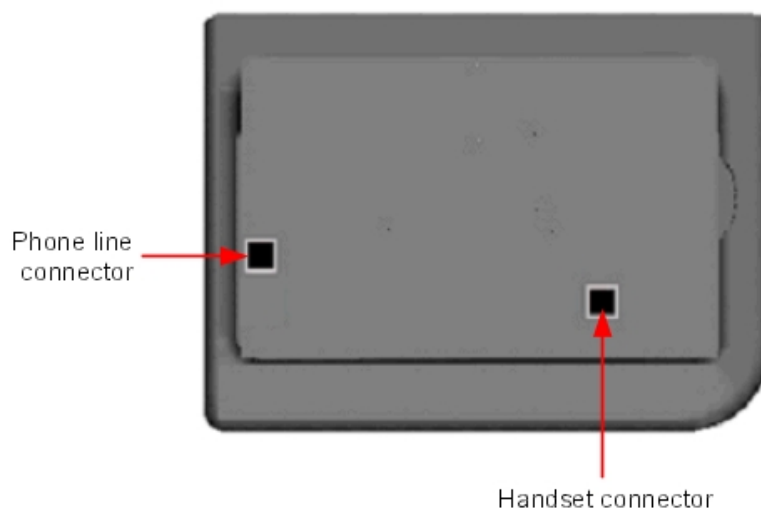


Figure 4.51: Alcatel-Lucent 4019 Digital Phone connectors

4.6.1.1.2 Commissioning the set

This section describes how to:

- Connect the set
- Program keys

Prerequisites

None.

Connecting the set

This section describes how to connect the set to the telephone system.

Prerequisites

None.

Connecting the set to the telephone system

To connect the set to the telephone system:

1. Turn the set over so that you can see its base.
2. Plug the RJ11 cable into the set's UA port/phone line connector.
3. Connect the RJ11 cable to a UA port in the telephone system.

Programming keys

This section describes how to program the programmable keys.

In fact, only the direct call key can be programmed (with a telephone number), which by default is the sixth programmable key. However, the Personal/Dial by name key can be programmed in a similar way.

To program a key:

1. Press the **i** key followed by the required programmable key.
2. Press one key of the 2-way navigator (up or down).
3. Enter the telephone number to be associated with this programmable key.
4. Press **OK**. The set then goes back to its default display.

4.6.2 4029/4039 Digital Phone

4.6.2.1 Commissioning

4.6.2.1.1 Overview

This module presents all the actions required for commissioning the Alcatel-Lucent 4029 Digital Phone and Alcatel-Lucent 4039 Digital Phone sets.

The following figure illustrates the connectors on the base of each set.

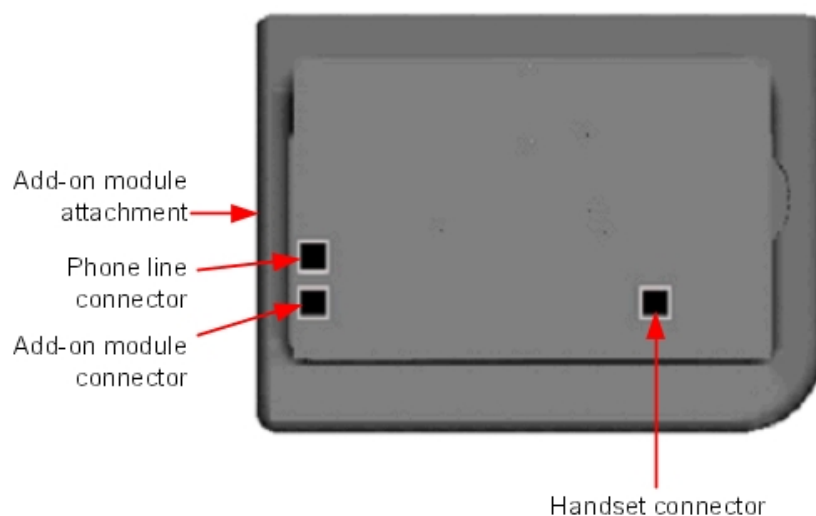


Figure 4.52: Alcatel-Lucent 4029 Digital Phone and Alcatel-Lucent 4039 Digital Phone connectors

4.6.2.1.2 Commissioning the sets

This section describes how to:

- Connect the sets

- Connect optional equipment
- Program keys

Prerequisites

None.

Connecting the sets

This section describes how to connect a set to the telephone system.

Prerequisites

None.

Connecting to the telephone system

To connect a set to the telephone system:

1. Turn the set over so that you can see its base.
2. Plug the RJ11 cable into the set's UA port/phone line connector.
3. Connect the RJ11 cable to a UA port in the telephone system.

Connecting optional equipment

This section describes how to:

- Connect an Add-On module (AOM) to the sets
- Connect a headset
- Connect an external hands-free device

Connecting an Add-On module to the sets

Add-On Modules (AOMs) can be connected to the Alcatel-Lucent 4029 Digital Phone and Alcatel-Lucent 4039 Digital Phone sets. They are added to the right side of the set.

Three types of Add-On Module exist and provide keys associated with icons:

- AOM10 provides 10 keys
- AOM40 provides 40 keys
- AOM Alcatel-Lucent 8 series and Alcatel-Lucent 9 series Smart Display Module provides 14 keys with programmable LCD labels

Prerequisites

None.

Rules and restrictions

The following rules apply to the use of Add-On Modules with the Alcatel-Lucent 4029 Digital Phone and Alcatel-Lucent 4039 Digital Phone sets:

- A maximum of three Add-On Modules of the types AOM10 and AOM40 can be connected to each set, providing up to 120 additional keys.
- A maximum of three Smart Display Modules can be connected to each set, providing up to

42 additional keys.

- Add-On Modules of types AOM10 and AOM40 can be used on the same set, but a Smart Display Module cannot be used in conjunction with an AOM10 or AOM40.
- If an AOM10 is used with other Add-On Modules, it must be connected as the last module on the far right of the set.

Connecting Add-On Modules

To connect an Add-On Module:

1. Remove the tab located on the right side of the set.
2. Plug the Add-On Module's RJ45 connector into the set's RJ45 connector.
3. Insert the Add-On Module attachments into the appropriate holes located on the right side of the set.
4. Screw the Add-On Module to the set.

Note:

If the set is on when you plug in an Add-On Module, you must restart the set after connection.

Connecting headsets

The headset jack is located on the left side of the set.

The 3.5 mm female jack can receive a headset jack.

The hands-free key allows you to switch from handset to headset.

Prerequisites

None.

Connecting a headset

To connect a headset, simply plug the headset jack into the associated connector on the side of the set.

Connecting an external hands-free device

The external device jack is located on the left side of the set.

The 3.5 mm female jack can receive the jack of an external hands-free device.

In order to take the external hands-free device into account, the set's customization for the jack must be set to "Handsfree".

Prerequisites

None.

Connecting an external hands-free device

To connect an external hands-free device, plug the external device's jack into the associated connector on the side of the set.

Programming keys

This section describes how to program a programmable key from the:

- F1/F2 keys
- Add-On Module keys (if any)
- virtual add-on keys

Two methods are presented.

Programming a key

To program a key:

1. From the **MENU** tab, select **Settings**.
The Settings menu appears.
2. From the **Settings** menu, select **Keys**.
The virtual add-on keys appear.
3. Select the key to be programmed, as follows:
 - To program a virtual add-on key, scroll using the up/down navigator keys until you reach the required virtual key and then press the corresponding soft key.
 - To program the F1 or F2 key, or a key on a connected Add-On Module, simply press this key.
4. Select **Name** and enter the name to be associated with the selected key, then press **OK**.
The desired name is associated with the key.

Note:

As of release 6.0 of Alcatel-Lucent OmniPCX Office Communication Server, it is possible to use Unicode - Chinese and Cyrillic - characters. It is at this step that it becomes active, if used. For more information about IME, refer to the section Operation - Input Method Editor in this chapter.

5. Select **Number** and enter the telephone number to be associated with the key, then press **OK**.
The desired number is associated with the key.
6. Press **Exit** to go back to home page.

Programming a key (fast customization)

You can also program a key using the following method:

1. Select the key to be programmed, as follows:
 - To program a virtual add-on key, from the **PERSO** tab press **i** followed by the required key.
 - To program the F1 or F2 key, or a key on a connected Add-On Module, from any tab press **i** followed by the required key.
2. Select **Name** and enter the name to be associated with the selected key, then press **OK**.
The desired name is associated with the key.
3. Select **Number** and enter the telephone number to be associated with the key, then press **OK**.
The desired number is associated with the key.
4. Press **Exit** to go back to the home page.

4.7 V24/CTI Interface Module

4.7.1 Hardware description

4.7.1.1 Overview

The V24/CTI Interface Module allows a Data Terminal Equipment (DTE) to be connected to the OmniPCX Office, via a UA link, by means of an RS232 serial link (CTI port) or a V24 link.

The V24/CTI Interface Module can be used alone or combined with an Alcatel-Lucent 9 series set.

The V24/CTI Interface Module replaces the 4093 PLUGWARE V24/CTI. The two interface modules can operate together: a data link can be set between an V24/CTI Interface Module and a 4093 PLUGWARE V24/CTI.

CTI port

The RS232 serial link carries signalling (up to 9600 bit/s) and allows telephone operations such as call management and call monitoring. The audio part is carried out by the associated dedicated set.

V24 port

The V24 port is considered as a DCE and provides a capacity of 19200 bit/s (ECMA 102) for an asynchronous V24 transmission. The electrical interface complies with the V28 recommendation of the CCITT.

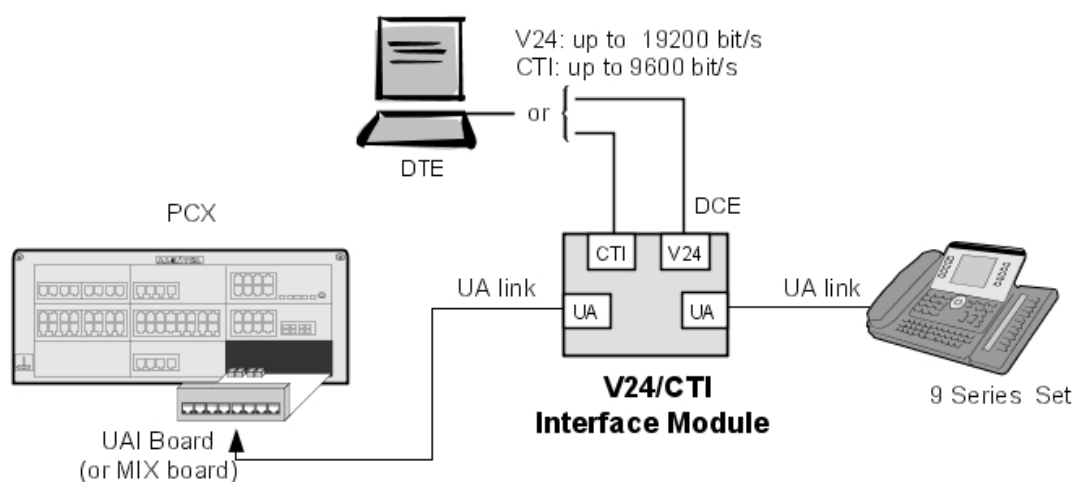


Figure 4.53: V24/CTI Interface Module Configuration Example

4.7.1.2 Compliant Standards

4.7.1.2.1 Safety Requirements

- EN60950: European requirements
- UL 1950: US requirements

- CAN/CSA-C22.2 No 950-95: Canada

4.7.1.2.2 ECM

- EN55022: Limits and methods of measurement of radio interference characteristics of information technology equipment
- EN55024: Limits and methods of measurement of immunity characteristics of information technology equipment
- FCC part15: US requirements

4.7.1.2.3 V24 & CTI

- CCITT Rec.: V24, V28, V25bis, V54, V110
- Hayes protocols
- ECMA 102: Attachment requirements for pan-European approval for connection to PSTN of TE (excluding TE supporting the voice telephony service) in which network addressing, if provided, is by means of DTMF signalling

4.7.1.2.4 Environment Classes

- ETS 300 019: Environmental conditions and tests for telecommunication equipment:
 - Part 1-1: Storage
 - Part 1-2: Transportation
 - Part 1-3: Environmental conditions

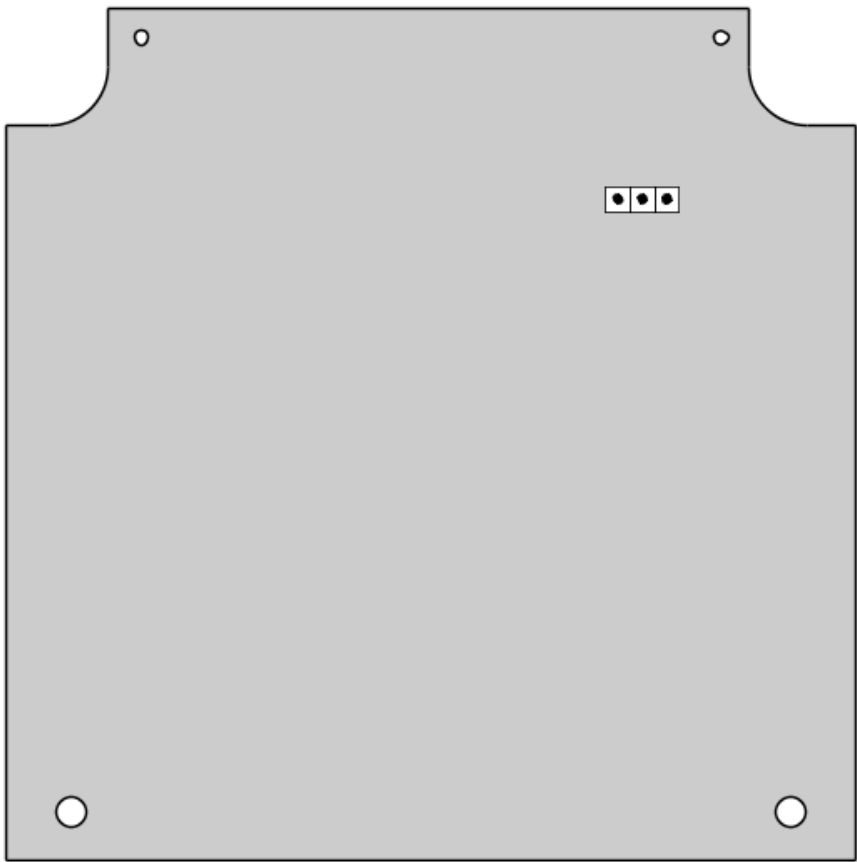
4.7.1.2.5 Eco Design

- ISO 14040: Environmental management – Life cycle assessment – Principles and framework (1997)
- RoHS

4.7.2 Hardware configuration

4.7.2.1 Overview

Serial number: 3GV27015AB



4.7.2.2 Jumpers

The jumper in a gray background is factory installed.

	Associated UA Set	Stand Alone
Operation Mode		

To configure the V24/CTI Interface Module, open the device with the 2 screws located under the module.

If the jumper is positioned for "stand-alone" operation, an associated set cannot work.

If the jumper is positioned for "associated UA set" operation, the associated set is mandatory, the Interface Module cannot work without it.

4.7.3 External connections

4.7.3.1 V24/CTI Interface Module Connection

The V24/CTI Interface Module is connected as follows:

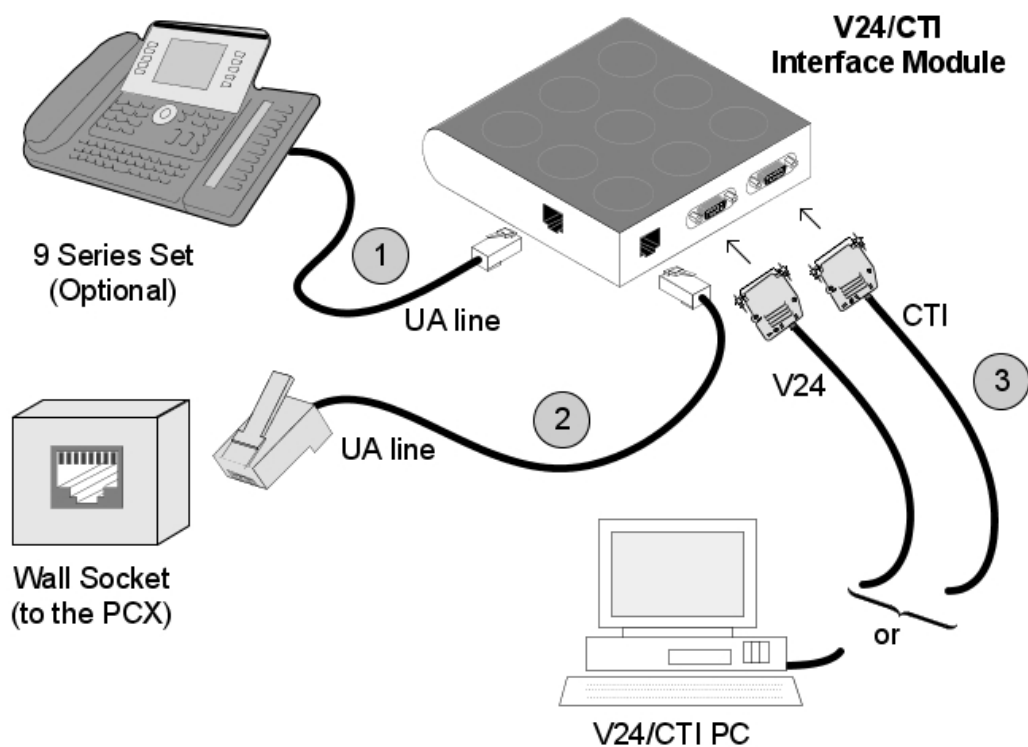


Figure 4.56: V24/CTI Interface Module Connection

The V24/CTI Interface Module is connected to:

1. The UA set 3 m maximum length (RJ11/RJ11 cable)
2. The PCX via a wall socket and a distributor frame (see detail in module UA 4035 (Advanced) set - Connecting the UA 4035 (Advanced) Set)
3. The CTI or V24 terminal:
 - V24: 3m maximum length
 - CTI: 3m maximum length

4.7.3.2 V24/CTI Interface Module Rear Panel Details

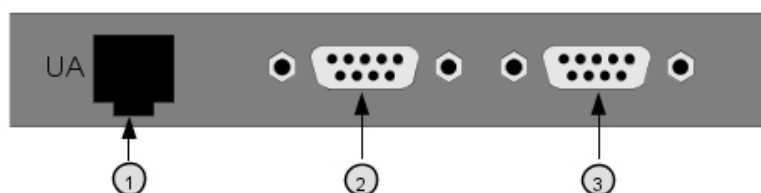


Figure 4.57: Rear Panel

1. RJ11 connector for UA line to PCX
2. V24 SUBD9 connector
3. CTI SUBD9 connector

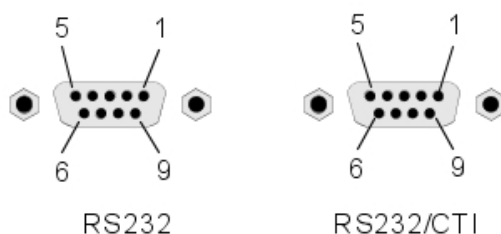


Figure 4.58: Connector Details

RS 232 port (V24):

Pin	Signal	Description
1	DCD	Data Carrier Detect.
2	TX	Transmit data.
3	RX	Received data.
4	DTR	Data Terminal Ready.
5	GND	Protective ground.
6	DSR	Data Set Ready.
7	RTS	Request To Send.
8	CTS	Clear To Send.
9	RI	Ringing Indicator.

CTI port:

Pin	Signal	Description
1		
2	TX	Data transmission

3	RX	Data reception
4		
5	GND	Protective ground
6		
7	RTS	Transmission request
8	CTS	Ready for transmission
9		

4.8 Intelligent Base Stations

4.8.1 Detailed description

This notice describes the rules to follow for an installation comprising three or four DECT bases.

For a larger installation, a preliminary study must be carried out using coverage tools. The bases are then installed according to the results of this study.

4.8.1.1 CONNECTION

The Alcatel-Lucent 4070 IO is designed for internal installation in the building, while the Alcatel-Lucent 4070 EO is designed for external installation.

The 4070 EO IBS comes in a plastic box and is protected against temperature variation.

The 2 antennae are outside the box so that they both have the same signal reception.

Intelligent Base Stations (IBS) are fitted with a red LED that gives information about the state of the Base Station:

- Fixed LED:
 1. Software downloading
 2. Initialization phase, waiting for synchronization
 3. Software problem, IBS stopped.
- Fast blink: There is a problem with the line.
- Short ON, long OFF: Running on 1 UA link.
- 500ms OFF, 500ms ON: Running on 2 UA link.

The IBSs can run and be powered remotely by the UA access (this is the most common configuration). But they can also be powered by a power device. This is used when there are a lot of IBSs and the system power cannot support all the connected IBSs.

A base station may be connected to 1 or 2 UA links (UAI boards) and allows 3 or 6 simultaneous connections with DECT/GAP terminals.

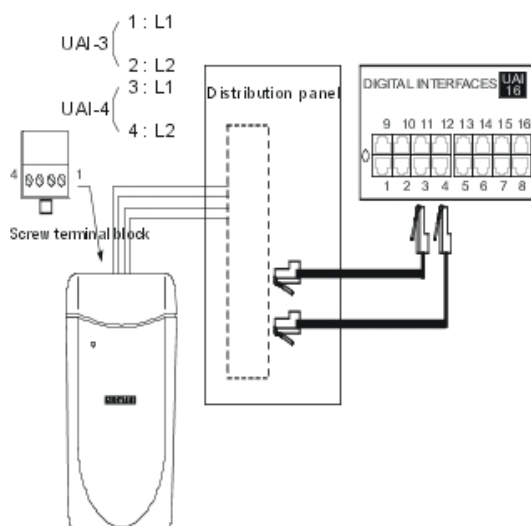
The need for three or six communication channels depends on the number of cordless stations and on the DECT traffic to be managed.

In the event of a two-cable connection:

- use two interfaces neighboring a UAI board
- use the even-numbered interface for the master link and the other for the slave link.



Both cables should have the same length. The first interface of the system's UAI16 board should not be used since the operator station uses those points.



4.8.1.2 NUMBER OF USEFUL BASE STATIONS

Any radio signal is subject to various propagation phenomena: attenuation, reflection and diffraction. These phenomena are related to the environment of the Alcatel-Lucent 4070 IO/EO, and affect the radio performance of the system.

The effects can improve or deteriorate wave propagation.

Take as an example a building with a metallic structure. A radio wave will tend to be subject to many reflections which will consequently degrade system performance.

Moreover, the range of an Alcatel-Lucent 4070 IO/EO is very dependent on the amount of attenuation subjected to the radio wave across various zones.

The following table gives the values of global coverage zone (cell) for an Alcatel-Lucent 4070 IO/EO under normal environmental and topological conditions:

	Interior	Exterior
Coverage area	~ 50 m	~ 400 m
Area:	~ 7,000 m ²	~ 50 000 m ²

4.8.1.3 NUMBER OF USERS PER BASE STATION

Type of Base Station connection.	Number of DECT users
3 channels	4
6 channels	12

4.8.1.4 LOCATING DECT BASE STATIONS

As a result of the environment and the infrastructure, certain recommendations must be taken into account for locating Alcatel-Lucent 4070 IO/EO:

	Recommendations for location	Possible solutions
INTERIOR COVERAGE	As far as possible from walls	Suspend Alcatel-Lucent 4070 IO/EO in a clear zone
	Do not fix directly to a metallic structure	Move Alcatel-Lucent 4070 IO/EO into another zone
	Do not place in false ceilings or in telecom rooms	Place Alcatel-Lucent 4070 IO/EO in useful zones (corridors)
	As far as possible from industrial machines or electrical cabinets	Place 4070 IO/EO in useful zones
EXTERNAL COVERAGE	Place the base stations in an open space (as far as possible from buildings)	Attached to pylons for example
	Place the base stations higher than low obstacles (trees, cars etc.)	At the top of buildings on pylons for example

4.8.1.5 INTERACTIONS

Interactions with other features

IBS DECT and IBS PWT (Personal Wireless Telecommunications) cannot run together on the same system. The first IBS plugged determines the system type (DECT or PWT).

To switch from one system to another, unplug all IBSs, make a warm restart and plug in the IBSs.

Interactions with other applications

IBSs are fully compatible with other wireless technologies such as VOWLAN.

Interactions with other software releases

OmniPCX Office release 5.1 requires 4 kinds of DECT initialization: Europe, Latin America, United-States and China. See also: [§ IBS CONFIGURATION](#) .

4.8.1.6 LIMITS

Number of IBSs: 20 IBSs per cabinet is recommended, however, the number of IBSs is only restricted by the available power.

DECT link limit: 3 links on an IBS with one UA access, 6 links on an IBS with 2 UA accesses.

DECT handset limit: up to 120 handsets on a system.

4.8.1.7 PERFORMANCE AND QUALITY

IBSs are downloaded during the system start phase or when hot plugged. A system with many IBSs plugged might take longer to complete the start phase.

Downloading 1 IBS takes about 30 seconds. It takes more time when several IBSs are plugged on the same UA resource.

The end of restart is only possible after all the devices have been taken into account.

If an **IBS downloading fails**, the IBS restarts with the previously installed software.

4.8.1.8 IBS CONFIGURATION

There is no hardware configuration for IBS other than selecting between an external power supply for each IBS and remote power by system.

To configure the IBS software:

ARI Number

The ARI number identifies each OmniPCX Office. Each OmniPCX Office has an identical default ARI number.

When you install a new OmniPCX Office, you have to change the default ARI number. You can only keep the first digit, which is "1" and which means "ARI type B".

- 1 In **OMC**, go to **System Miscellaneous -->DECT/PWT ARI/GAP**
- 2 Enter your own number (octal digit) to register your DECT handset.

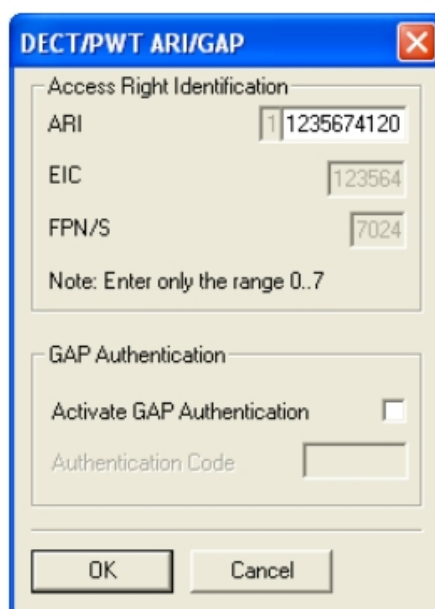


Figure 4.60: ARI Number

Note 1:

*The **ARI Number** is the only non plug and play device on the IBS.*

The default configuration fits with the major systems. Modifications should answer to specific needs.

Line length

The Line length is the cable length used to plug the IBS to the system (distance between the IBS and OmniPCX Office). It enables the system to add a delay in signal and to avoid a shift in clock signal that creates a reset of the IBS.

- 1 In **OMC**, go to **Users/Base stations List**.
- 2 Select the **IBS Master** and click **Details**

There are 3 possibilities of configuration:

- Short line (0-400 meters)
- Medium line (400-800 meters)
- Long line (800-1200 meters)

Restart the IBS after you have modified the Line length parameter.

Antenna diversity

Antenna diversity is the ability of the IBS to move the transmission and reception from one antenna to the other so that the signal is always of the highest quality.

Restart the IBS after you have modified the Antenna diversity parameter.

Silent-Noisy IBS

Enable the Silent-Noisy IBS parameter to set up the echo canceller device.

The IBS is fitted with a software device that analyses audio signals and eliminates echo and noises. This device is activated by default.

When an IBS is deployed in a noisy environment, a lot of signals, including Speech ones, are eliminated while in Conversation state. This leads to bad Speech quality.

You have the option to disable the echo canceller. In that way, the speech and the noise signals are not filtered. It is then to the user to identify the speech.

Frequency plan

In **OMC**, go to **System Miscellaneous# DECT/PWT Frequencies** to select signals. In OMC, you can configure both the DECT and PWT frequency plans, regardless of what types of handsets are plugged on the system.

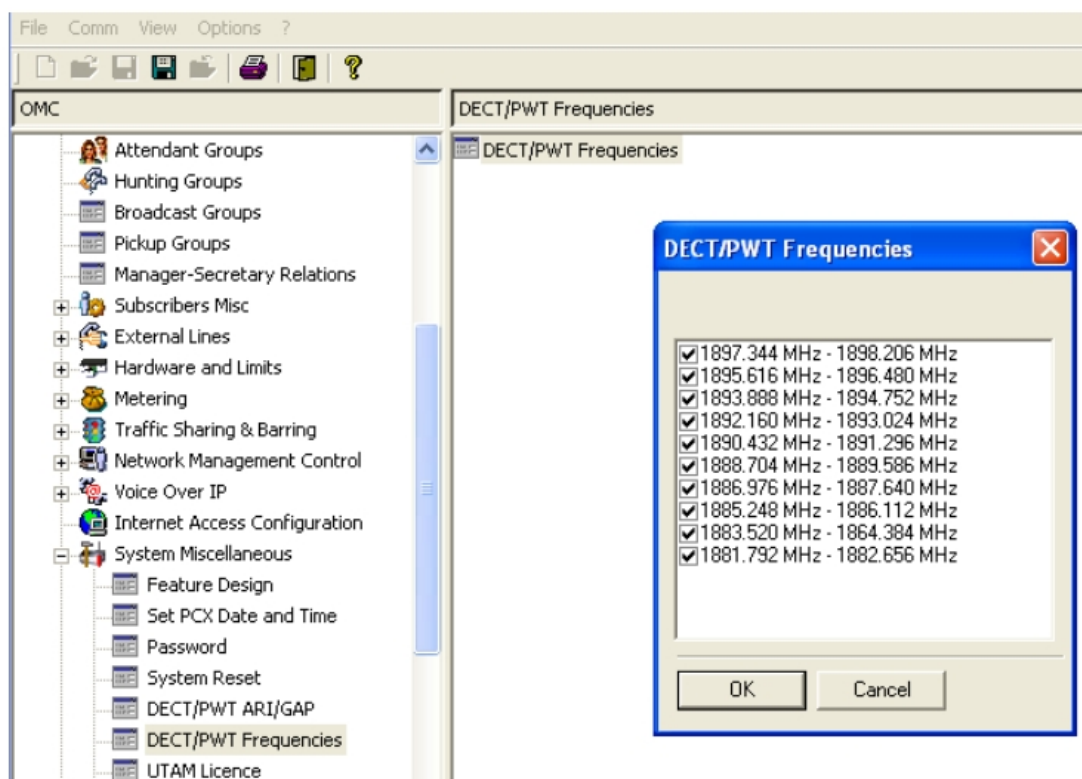


Figure 4.61: DECT/PWT Frequencies

Note 2:

Due to hardware, there is a limit in the number of channels that you can configure.

You can configure the following numbers of channels:

- DECT EUROPE, LATAM, CHINA: 1, 2, 4, 5, 8, 10 channels
- DECT US: 1, 2, 4, 5 channels
- PWT: 1, 2, 4, 5, 8 channels

4.8.1.9 Initialization

Once the IBS finishes the downloading, the system starts the initialization.

The system synchronizes the signals of the IBSs so that handovers are possible. The system selects the T0, T2, or CPU main board clock as the source.

Then the system sends the following data:

- Fixed part capabilities (Full slot, frequency control, page repetition, setup on dummy, basic A field setup): value sent = 0x007910
- Line length: Short line
- Frequency plan (2 bytes)

Some countries have shifted DECT frequencies. In order to be compatible with all frequency

bands in the different countries, 4 types of initialization of frequency plans are available: Europe, Latin America, The United-States and China.

table 4.30: RF Band Europe

Channel	TX Freq	RX Freq
0	1897.344	1898.206
1	1895.616	1896.480
2	1893.888	1894.752
3	1892.160	1893.024
4	1890.432	1891.296
5	1888.704	1889.566
6	1886.978	1887.840
7	1885.248	1886.112
8	1883.520	1884.384
9	1881.792	1882.656

Note 1:

By default, all frequencies used

Value sent to IBS: 0x3FF

0000 0011 1111 1111

table 4.31: RF Band China

Channel	TX Freq	RX Freq
0	1918.060	1918.944
1	1916.352	1917.216
2	1914.624	1915.446
3	1912.898	1913.760
4	1911.188	1912.032
5	1919.440	1910.304
6	1907.712	1908.576
7	1905.964	1906.848
8	1904.256	1905.120
9	1902.528	1903.392

Note 2:

By default, all frequencies used

Value sent to IBS: 0x3FF

0000 0011 1111 1111

table 4.32: RF Band Latam

Channel	TX Freq	RX Freq
0	1928.448	1929.312

1	1926.720	1927.584
2	1924.992	1924.992
3	1923.264	1923.264
4	1921.536	1921.536
5	1919.808	1919.808
6	1918.060	1918.060
7	1916.352	1916.352
8	1914.624	1914.624
9	1912.896	1912.896

Note 3:

By default, all frequencies used

Value sent to IBS: 0x3FF

0000 0011 1111 1111

table 4.33: RF Band US

Channel	TX Freq	RX Freq
3	1928.448	1929.312
4	1926.720	1927.584
5	1924.992	1925.856
6	1923.264	1924.128
7	1921.536	1922.400

Note 4:

By default, only 5 frequencies used

Value sent to IBS: 0x03E0

0000 0011 1110 0000

table 4.34: RF Band PWT

Channel	Center Freq
0	1929.375
1	1928.125
2	1926.875
3	1925.625
4	1924.375
5	1923.125
6	1921.875
7	1920.625

Note 5:

By default, 8 frequencies used

Value sent to IBS: 0x03FC

0000 0011 1111 1100

4.8.2 Safety rules

4.8.2.1 ENVIRONMENTAL PROTECTION

For an exterior installation, it is necessary to take precautions against lightning affecting the location of the Alcatel-Lucent 4070 IO/EO.

4.8.2.1.1 Conditions for using lightning protection:

Protection of Alcatel-Lucent 4070 IO/EO against lightning should be used when they:

- are less than 1.5 m from a wall more than 2 m below the antenna.
- use an external airborne connection between the base station and the system.

4.8.2.2 RECOMMENDATIONS FOR EXPOSURE OF THE PUBLIC TO THE ELECTROMAGNETIC FIELD

4.8.2.2.1 MAGNETIC ABSORPTION RATE

Exposure of the public to the electromagnetic field from DECT sets and base stations is measured using the Specific Absorption Rate (SAR) measuring unit. 2W/kg is the SAR limit value indicated in international recommendations and also in the European recommendation (1999/519/EC).

The DECT authorised SAR limit value is 2 Watts/kilogram on 10g of body tissue (local SAR). International recommendations include a safety margin for the public and take account of possible measuring variations.

SAR values

- Set: as the average power emitted from a set is lower than 20mW, the set is considered to comply without having to undergo any tests (see: EN 50371). The SAR value for DECT sets (e.g.: Mobile Reflexes) is not significant.
- Base station: the local SAR (head and chest) on 10g of body tissue for DECT base stations (e.g.: 4070) is lower than 0.5 W/kg (this is with an integrated omni-directional antenna).

4.8.2.2.2 ANTENNAE CHARACTERISTICS

Integrated antennae

The following is a list of characteristics for integrated antennae:

- Bandwidth: 1.88 to 1.93 Ghz
- Impedance: 50 Ohms
- TOS: 1.5:1
- Gain: 3 dBi (maximum)
- Polarization: vertical (axis of the antenna)
- Width of the beam at 3 dB (vertical): 90°
- Radiation diagram: omni-directional in the horizontal plane.

External antennae

According to the ETSI EN 301 406 standard, DECT antenna gain is limited to 12 dB +/-3dB. In the case of external directional antennae, if a minimum safety distance of 50 cm is respected, the SAR value is the same as the value obtained in the case of an integrated omni-directional antenna (and therefore, lower than: 0.5 W/kg).

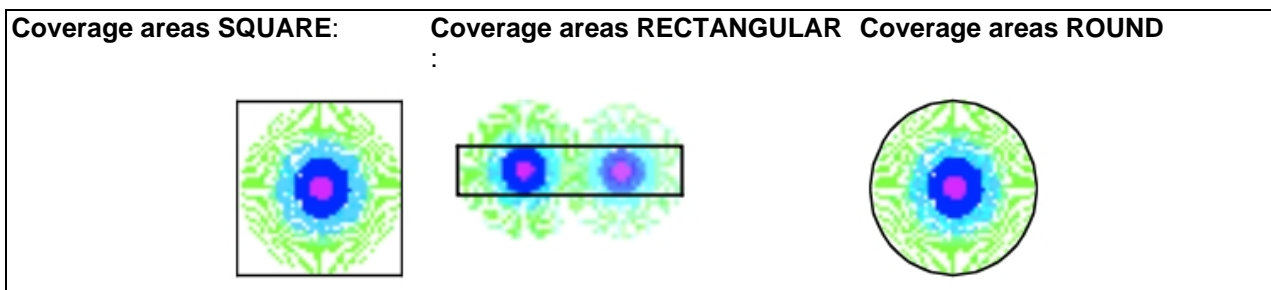
4.8.2.2.3 CONFORMANCE PERIMETER FOR EXPOSURE OF THE PUBLIC

- Integrated omni-directional antennae: no limit for the conformance perimeter
- External antenna (directional): the installation must allow for a safety perimeter respecting a minimum distance of 50 cm.

4.8.2.3 RECOMMENDATIONS FOR INSTALLATION

4.8.2.3.1 Standard Topology.

The various building infrastructures are grouped into three types of geometric shape.



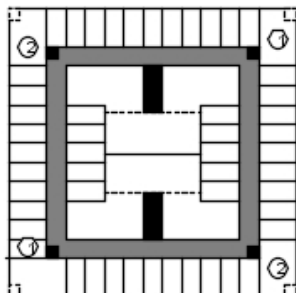
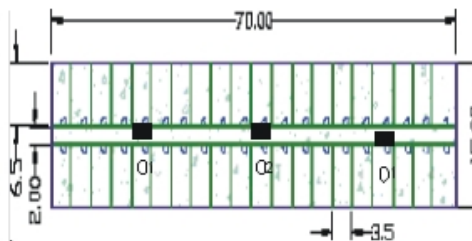
The distances quoted below give an idea of typical range of a base station. It is clear that a rectangular zone requires more base stations to provide full coverage.

4.8.2.3.2 Layout technique

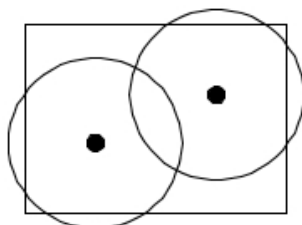
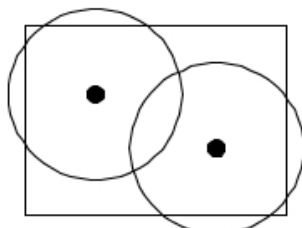
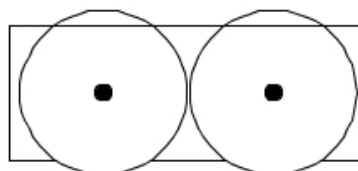
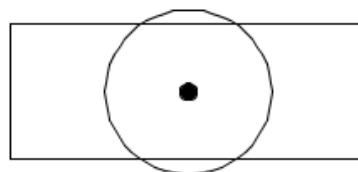
For structures with a number of floors, different solutions can be envisaged as a function of:

- the coverage obtained at each level.
- the position of the Alcatel-Lucent 4070 IO/EO (higher or lower level).

Installation examples

Square zone**Rectangular zone**

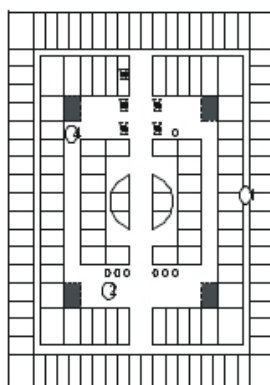
Q1 1st floor terminals
Q2 2nd floor terminals

Example 1: square building1st floor2nd floor**Example 2: rectangular building**1st floor2nd floor

It is possible to alter the number of base stations used from one floor to another for this type of building.

The technique used is overlapping the location of base stations from one level to another. This technique can be used for alternate floors if the coverage of a level can be achieved from an adjacent level.

4.8.2.3.3 Coverage depending on the infrastructure



Description:

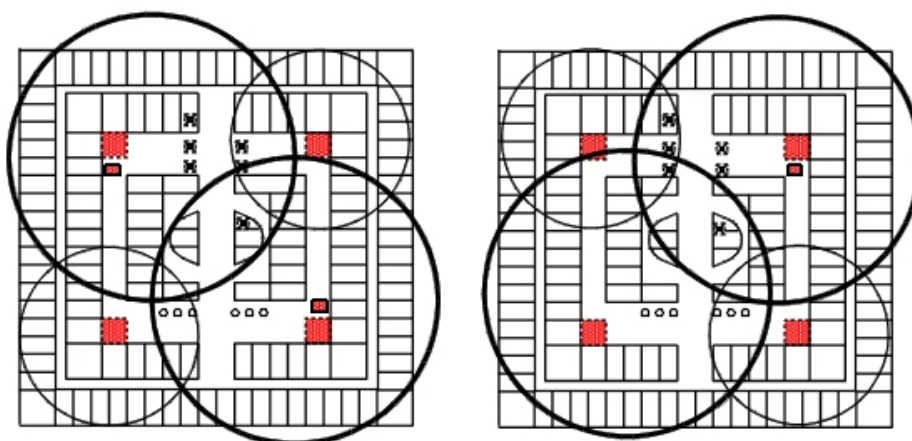
st 1 floor: 66m x 42 m

- (1) offices
- (2) corridors
- (3) lifts
- (4) stairs

2 floors to cover

The solution proposed alternates two stations per floor with overlapping locations from one floor to another. The zones shown by unbroken circles correspond to the zones covered by each station (B1, B2, B3, B4).

The zones in bold correspond to the coverage at a given level from a station on the floor above or below.



4.9 Client PCs

4.9.1 Installation procedure

The PCs connected to the company's local network and which use the Alcatel-Lucent OmniPCX Office Communication Server internet services (network services, Internet access via proxy or not, e-mail, system administration, etc.), must be configured in a particular way in relation to the services available on the system.

Note 1:

The client PC must have a Web Browser, Internet Explorer (release 5 and later) or Netscape Navigator

(release 6 and later).

Note 2:

For more details, refer to the documentation of the operating system used on the client workstation.

The following services can be configured:

- network services
- Web browsing
- Electronic messaging
- access to an FTP server
- file server.

4.9.1.1 NETWORK SERVICES (ROUTING, DNS)

These services are used by all the software which accesses the network:

- Internet browsers (Internet Explorer or Netscape Navigator, etc.).
- Tools for managing electronic mail (Netscape Communicator, Outlook, etc.).
- Multimedia tools (Real Player, Media Player, etc.)

Note:

*To do this, the following parameters, **IP address, Subnet mask, Default Gateway** of the Ethernet access card for this network as well as the **DNS service** must be configured in the following way:*

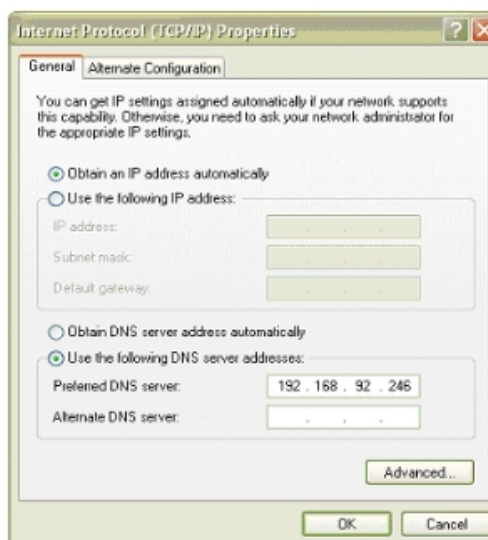
4.9.1.1.1 DNS Server (Domain Name Server)

The main use of this service is to resolve names, that is, to produce the IP address of a machine of which only the name is known. All DNS requests **must be addressed to the system**. Requests addresses directly to a DNS on the Internet (DNS supplied by the ISP) will be rejected by the firewall.

Example:

Configuring the DNS with Windows XP

Start -> All Programs -> Accessories - > Communications - > Network Connections - > Select the local network connection -> Properties -> Internet Protocol (TCP/IP) -> Use the following DNS server addresses



4.9.1.1.2 Ethernet network access board

Dynamic IP Address (DHCP)

- Reserve a range of addresses for PCs in the system: **WBM : Network -> DHCP tab .**
- Enable obtaining IP addresses from a DHCP server on the PC.

Example:

Configuring with Windows XP

Start -> All Programs -> Accessories -> Communications -> Network Connections-> Select the local network connection -> Properties -> Internet Protocol (TCP/IP) -> Obtain an IP address automatically



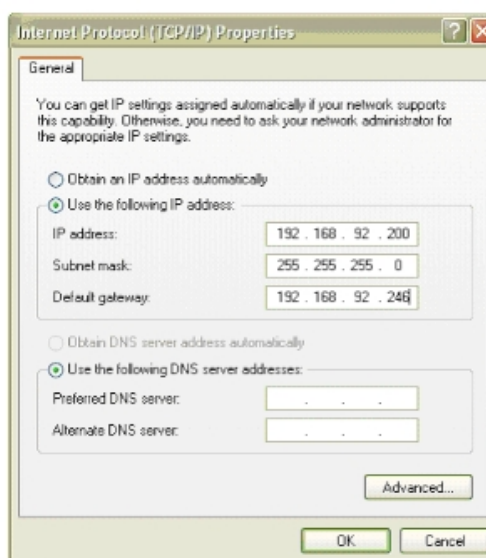
Static IP Address

Give an **IP address** to the Ethernet network card; this address must belong to the same subnet as the Alcatel-Lucent OmniPCX Office Communication Server. Set the relevant **subnet mask** and declare the main CPU of the Alcatel-Lucent OmniPCX Office Communication Server as **default gateway**.

Example:

Configuring with Windows XP

Start -> All Programs -> Accessories -> Communications -> Network Connections-> Select the local network connection -> Properties -> Internet Protocol (TCP/IP) -> Use the following IP address



4.9.1.2 INTERNET BROWSING

4.9.1.2.1 With Proxy

The Internet browser must be configured to use the Proxy server. The IP address of this server is that of the Alcatel-Lucent OmniPCX Office Communication Server main CPU board that hosts the "Internet Access" software. The port number used by the proxy is that configured in **WBM: Proxy -> Advanced Parameters -> PROXY Port Number (8000 by default)**.

Example:

Configuring with Internet Explorer

In Tools -> Internet options -> Connections -> LAN settings

- Check the checkbox **Use a Proxy server**
- Fill in the **address** and **port** fields
- Check the checkbox **Do not use the Proxy Server for local addresses**

4.9.1.2.2 Without Proxy

Configure the Internet Browser without proxy. In this case, the **network parameters of the PC must be set as shown in the "NETWORK SERVICES" section.**

4.9.1.3 E-MAIL

Alcatel-Lucent OmniPCX Office Communication Server is used to offer an electronic messaging solution for all users in a company. To do this, it supports various configurations:

- Alcatel-Lucent OmniPCX Office Communication Server is the company mail server.
- It can be integrated into the company network if it already has a messaging server.
- Alcatel-Lucent OmniPCX Office Communication Server provides access to an external voice mail server.

4.9.1.3.1 Alcatel-Lucent OmniPCX Office Communication Server is the company mail server.

Alcatel-Lucent OmniPCX Office Communication Server makes available to each user a local letter box, and manages the flow of messages between users of the local network and those to and from the Internet. The protocols used by this server are SMTP, to send messages, and POP3 or IMAP4, to manage mail boxes.

The account and password configured in the messaging tool are the Alcatel-Lucent OmniPCX Office Communication Server user login and password.

4.9.1.3.2 Alcatel-Lucent OmniPCX Office Communication Server can be integrated into the company network if it already has a messaging server.

If the company is connected to the Internet via Alcatel-Lucent OmniPCX Office Communication Server, it is used as the gateway between the LAN and the Internet for the exchange of messages. In such cases, the user must specify:

- The e-mail server's IP address on the LAN.
- The protocol used for e-mail messages coming from the IAP: SMTP or POP3 depending on the IAP's operating mode.

4.9.1.3.3 Alcatel-Lucent OmniPCX Office Communication Server provides access to an external voice mail server.

There is no messaging server in the company (Alcatel-Lucent OmniPCX Office Communication Server or LAN).

Alcatel-Lucent OmniPCX Office Communication Server is used as the gateway between LAN and Internet. To enable the exchange of e-mails between the client PCs on the LAN and the Internet, the firewall rule "e-mail" must be opened (see chapter on making Internet access secure).

4.9.1.4 ACCESS TO AN FTP SERVER

4.9.1.4.1 Access via the Proxy

If authentication is required to access the FTP server, the **login and password** must be sent in the URL as follows:

ftp://<login>:<password>@<ftp site name>.

4.9.1.4.2 Direct access without proxy

If the firewall is enabled on Alcatel-Lucent OmniPCX Office Communication Server, only passive FTP is authorized. This parameter depends on the FTP tool used, please refer to the FTP system user manual.

4.10 PIMphony

Alcatel-Lucent PIMphony is a personal productivity tool that connects your phone terminal (Alcatel Reflexes, analog or DECT wireless set) with your computer, providing enhanced usage of your telephone.

PIMphony IP is an IP phone that provides the same level of features as PIMphony associated with an actual terminal. PIMphony IP is based on Voice over IP technology (VoIP). No physical terminal is required.

Alcatel-Lucent PIMphony also provides tight integration with the most popular PIMs (Personal Information Managers) on the market, enabling them for Computer Telephony.

Note:

For information and details concerning Alcatel-Lucent PIMphony installation, refer to the Installation Manual section in the PIMphony Online Help.

The PIMphony Online Help is available:

- *from the PIMphony CD-Rom and the Documentation CD-Rom: open the aochelp.chm file to access the Online Help*
- *from the PIMphony application : once it is installed on your PC, press F1 to open the Online Help*

4.10.1 Hardware aspects

table 4.38: PCX Requirements

Version	Hardware Requirements
PIMphony 6.2	OmniPCX Office R5;x and R6.x

table 4.39: PC Requirements

Version	Hardware Requirements
PIMphony 6.2	P300Mhz + 64Mo Ram + 2Go HD (140Mo free space to install PIMphony) + SVGA (1024x768) + Ethernet Board + Keyboard + Mouse Sound card for PIMphony IP USB port or serial port for use of a headset with PIMphony IP

4.10.2 Software aspects

table 4.40: Supported and unsupported software

Supported Windows OS	Windows 2000 SP4 Pro Windows 2000 Server Windows XP Pro SP1+SP2 Windows XP Home SP1+SP2 Windows Server 2003, Server 2003 R2
Unsupported Windows OS	All Windows version before Windows 2000 SP4 Pro Windows XP x64 Edition Windows Vista Windows Server 2003 x64 RC Only for PIMphony Multimedia : Windows Server 2003
Internet Explorer	Internet Explorer 6.0 or more recent
Office	Outlook 2000, XP, 2003 Access 2000, XP, 2003
Goldmine	Goldmine 5.7 Goldmine 6.5, 6.7
Act	Act! 6
Unsupported Act	Act 2005, Act 2006, Act 2007
Lotus Notes	IBM Lotus Notes 5.02 to 6.5

4.10.3 Limits

Simultaneous connected users in HTTP :

- 25 maximum for Alcatel-Lucent OmniPCX Office Advanced Edition CS without Hard Disk platforms
- 75 maximum for Alcatel-Lucent OmniPCX Office Advanced Edition CS with Hard Disk platforms
- 200 maximum for Alcatel-Lucent OmniPCX Office Premium Edition CS platforms

Note:

The maximum of simultaneous connected users in HTTPS is 10 for Alcatel-Lucent OmniPCX Office Advanced Edition CS platforms and 25 for Alcatel-Lucent OmniPCX Office Premium Edition CS platform.

4.11 Extending Your Installation

4.11.1 Detailed description

4.11.1.1 CONFIGURATION OF STATIONS

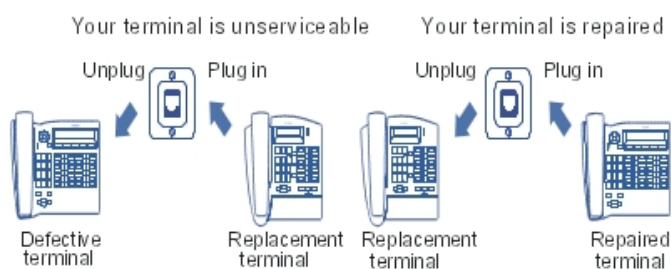
4.11.1.1.1 Handset replacement

You can replace your Reflexes terminal by connecting a terminal of the same family, but of a different type, into your phone socket. This substitution can be temporary or permanent.

Replacing an analog set by another analog set, or replacing an Alcatel Reflexes set by a set of the same type, requires no special procedure (simple hardware exchange).

Temporary substitution

The replacement set keeps its own default functions (customized settings are not transferred). The data not transferred is stored in the Alcatel-Lucent OmniPCX Office Communication Server system until a set of the same type as the initial one is connected.



Permanent replacement

The maximum quantity of data from the initial set is transferred to the replacement. Data not transferred are deleted.



Characteristics preserved during temporary or permanent set substitution

- Rights (restricted features)
- Barring level
- Metering profile
- Messages and last caller repertories
- Destination set for metering reminder, forwarding and/or monitoring
- Set belonging to a hunting group and/or a Manager-Secretary relation
- Appointment reminder
- Locked or unlocked set
- Callbacks
- Active forwarding
- Last number redial

Replacement of Reflexes sets

Regardless of the type of the initial Reflexes set and that of the replacement, the function and

resource keys are not preserved. The directory numbers are preserved in accordance with the size of the directories of the stations concerned (for example, when replacing a Advanced Reflexes set with a Premium Reflexes set, only the first 10 numbers are preserved).



The add-on modules are always transferred provided the substitution set supports these modules.

Note:

It is possible to replace a Reflexes set with an Alcatel-Lucent 9 series set. It is not possible to replace an Alcatel-Lucent 9 series set with a Reflexes set.

4.11.1.1.2 IP Touch set replacement

You can replace your IP Touch terminal by connecting a terminal of the same family only, into your phone socket. This substitution can be temporary or permanent.

Temporary substitution

The default configuration is not preserved when replacing temporarily an IP Touch set by another type of IP Touch set. The activation code and the replacement functions will be refused.

The data downloading process is automatically activated and the correct files are selected.

Permanent replacement

The default configuration is not preserved when replacing permanently an IP Touch set by another type of IP Touch set. The activation code and the replacement functions will be refused.

The data downloading process is automatically activated and the correct files are selected.

4.11.1.1.3 Moving a handset

If you move office, you can move your set from one socket to another and still preserve all or part of its settings.

Before relocating the set:

- You need to change the personal code, which must be different from the default code.
- It is advisable to lock the set.

Relocating a set to an unused socket



4.11.1.1.4 Adding sets

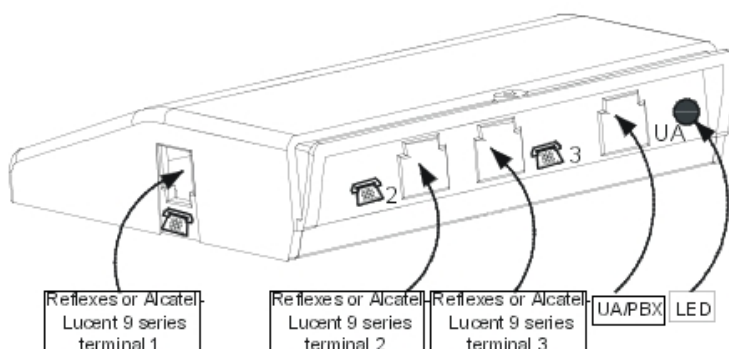
When adding sets, attention must be paid to the limits on the number of sets and the features offered by the system software key.



The set is recognized as soon as it has been plugged into the socket.

4.11.1.1.5 Using a Multi Reflexes 4099 hub

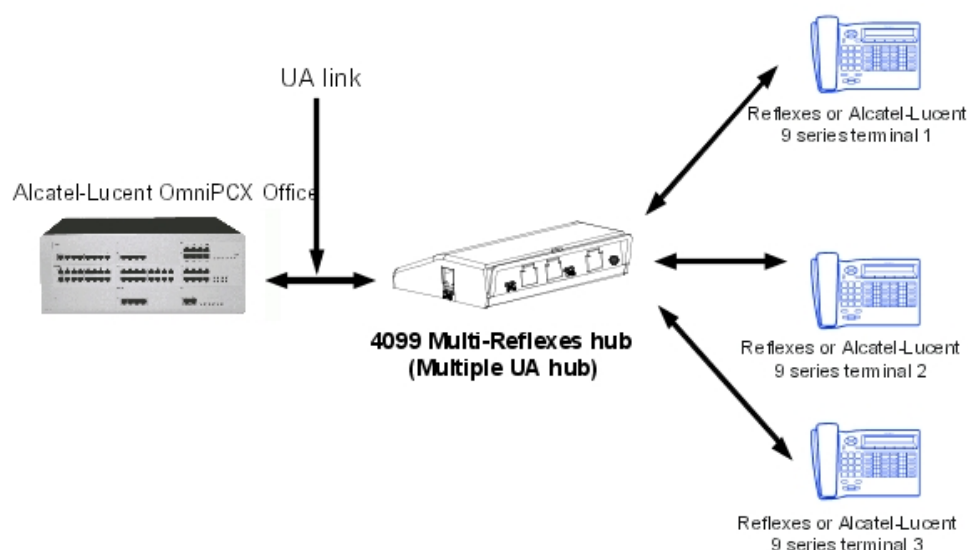
Multi Reflexes 4099 option (also called Multiple UA hub) connects up to 3 Alcatel Reflexes or Alcatel-Lucent 9 series terminals to an Alcatel-Lucent OmniPCX Office Communication Server using just one UA link. It simplifies the installation of additional Reflexes or Alcatel-Lucent 9 series terminals.



This option does not allow the connection of DECT base stations, 4070 IO/EO, Alcatel-Lucent 9 series sets or Alcatel Reflexes sets with V24/CTI Interface Module, S0 Interface Module or AP Interface Module.

Note:

IP Touch sets cannot be connected to a hub.



Interface classification

- UA link: TBTS
- Hub/Alcatel Reflexes or Alcatel-Lucent 9 series 1 to 3 : TBTS

Maximum distances between Alcatel-Lucent OmniPCX Office Communication Server and sets

- 0,4 mm cable: 325 m
- 0,5 mm cable: 505 m
- 0.6 mm cable: 730 m

Cables of 3 m and 10 m are available for connecting the sets to the hub.

4.11.1.2 ADDING/REPLACING BOARDS



Except for CPU and CoCPU, any board can be plugged/unplugged when the system is powered up.

To replace a CPU or a CoCPU board:

- Press the ON/OFF button, the **RED** led will flash.
- Wait for the LED to go to steady red (about 30 seconds): the system is turned off.

With OMC you can save and subsequently restore the configuration after replacing the CPU board.

4.11.1.3 CONNECTING A HARD DISK

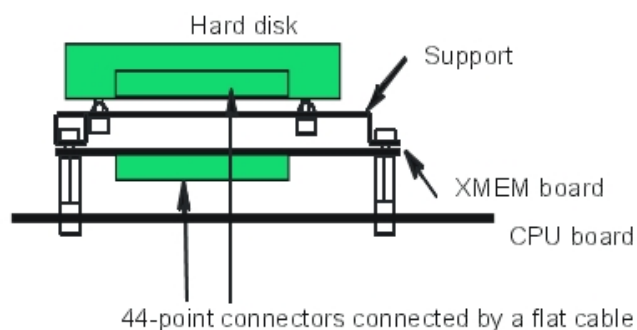


Figure 4.73: PATA Hard Disk Connection

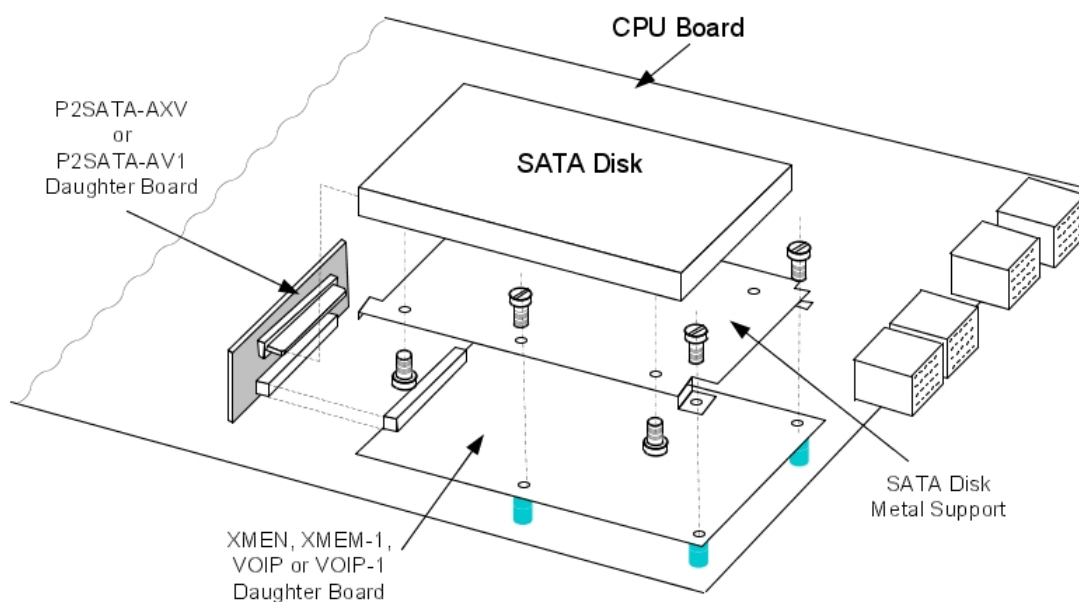


Figure 4.74: SATA Hard Disk Connection

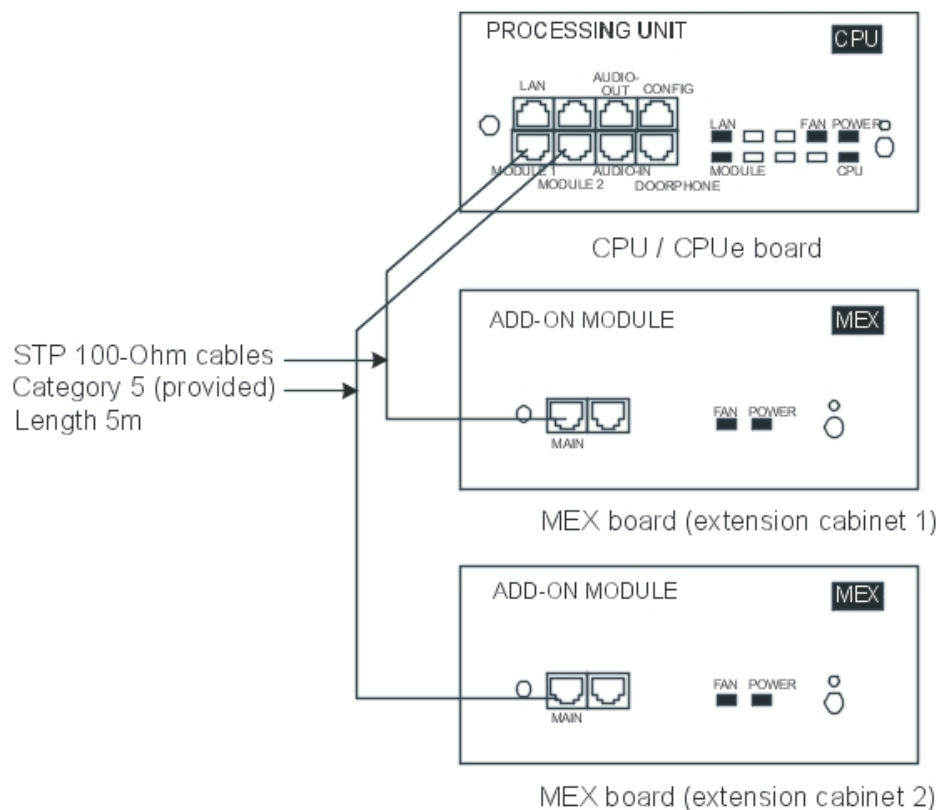


During installation, always take anti-static precautions (wristband, heelpiece, etc.) before handling the hard disk. **Any degradation caused by electrostatic discharges will reduce the life of the disk.**

When going into stand-by mode, wait for the red Power LED to stop flashing before you remove the module's CPU board. **Extracting the disk before the switch to standby is completed can destroy part of the disk or damage its contents.** Never handle the hard disk until the motor has stopped completely (about 4 seconds after the red Power LED stops flashing).

4.11.1.4 ADDING AN ADD-ON MODULE

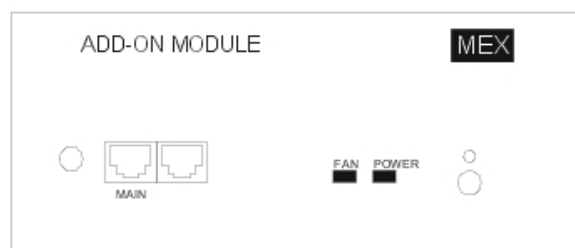
It is possible to add one or two modules to the basic module.



4.11.1.4.1 Fitting an add on module.

- The CPU slot of the add on module must be fitted with an MEX board with an HSL1 daughter board.
- Fit the CPU board of the main module with an HSL daughter board.
- An add-on module may only include synchronous digital network interfaces (BRA, PRA) if this type of card is already incorporated into the main module (synchronization by the main module).
- The same rules apply to the other boards as those which applied to the base module.

4.11.1.4.2 MEX board.



RJ45 pin	1	2	3	4	5	6	7	8
MAIN:	TX+	TX-	RX+			RX-		

- MAIN: HSL to basic module.

4.11.1.4.3 Role of the # key

Name	Color	Feature
POWER	Red/Green	<ul style="list-style-type: none"> - Mains operation: steady green led - Battery operation: steady yellow led - Standby: steady red LED
FAN	Red/Green	<ul style="list-style-type: none"> - Both fans functioning: steady green led - 1 or both fans down: steady red led

4.11.1.4.4 Adding a third module

- Replace the HSL1 board of the CPU board with an HSL2 board.
- Reuse this HSL1 board by placing it on the MEX board of the third module.



In an installation using two modules, the CPU (base module) and MEX (add on module)

boards are fitted with an HSL1 board.

4.11.1.5 INSTALLATION UPGRADE

A technical documentation describes the upgrading and migration of an R1.X, R2.X, R3.X, R4.X, R5.X, R6.X installation to an R7.0 installation.

5.1 Stations Default Configuration

5.1.1 Detailed description

5.1.1.1 DEFAULT CONFIGURATION

5.1.1.1.1 Alcatel-Lucent 8 series and Alcatel-Lucent 9 series station profiles

Alcatel-Lucent IP Touch 4038 Phone, Alcatel-Lucent IP Touch 4068 Phone and Alcatel-Lucent 4039 Digital Phone sets

Each of these sets has 2 programmable keys (F1/F2) and 40 virtual add-on keys. Their default functions depend on:

- The configuration of the set (Operator, Manager, Assistant, Normal or Attendant)
- The market in which the set is sold (US or non-US)
- The operating mode of the set (KeySystem or PABX mode)

The default functions of the F1/F2 keys are summarized in the table below (they are the same for KeySystem and PABX modes).

table 5.1: F1/F2 Key Functions

Market	Set Configuration	Key F1	Key F2
Non-US	Operator	Normal/Restricted Mode	Operator Diversion
	Manager	Secretary	Screening
	Secretary	Manager	Screening
	Normal	Call	Call
US	Operator	Manual Hold	Transfer
	Manager	Manual Hold	Transfer
	Secretary	Manual Hold	Transfer
	Normal	Manual Hold	Transfer

The default functions of the virtual keys are summarized in the figures below (separate figures are provided for the US market). The virtual keys are selected using 8 physical buttons, 4 on each side of the set's display. There are 5 pages of virtual keys (the pages can be scrolled through using the up/down buttons of the set's 4-way navigator), with 8 virtual keys on each page. Each of the following figures shows the first page of virtual keys and then indicates the progression to the last (fifth) page of virtual keys.

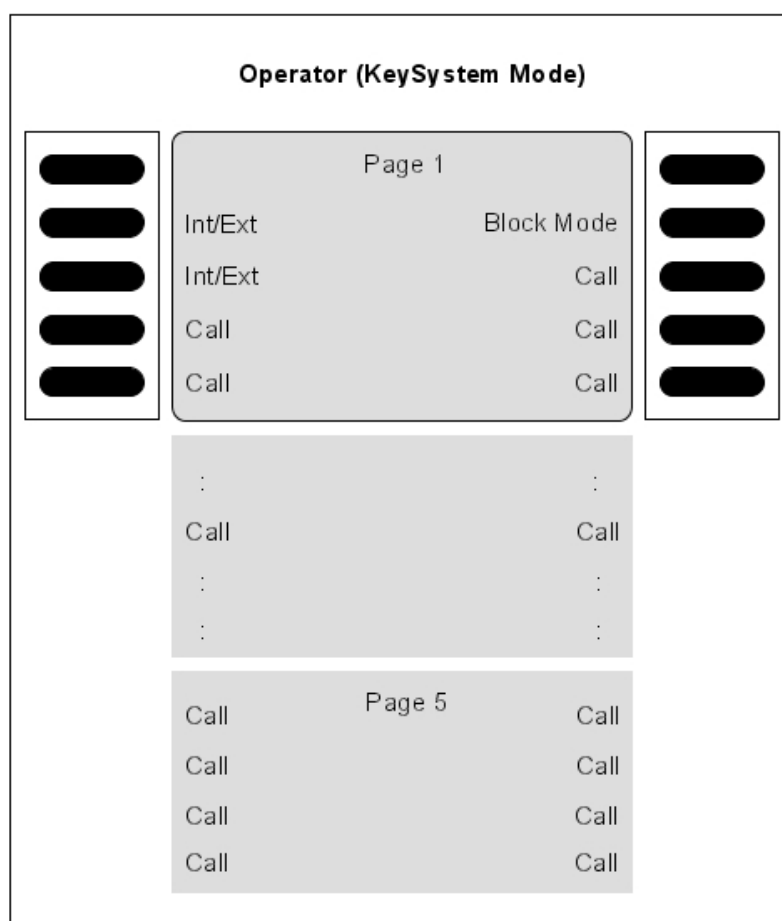


Figure 5.1: Virtual Key Functions for Operator Sets in KeySystem mode

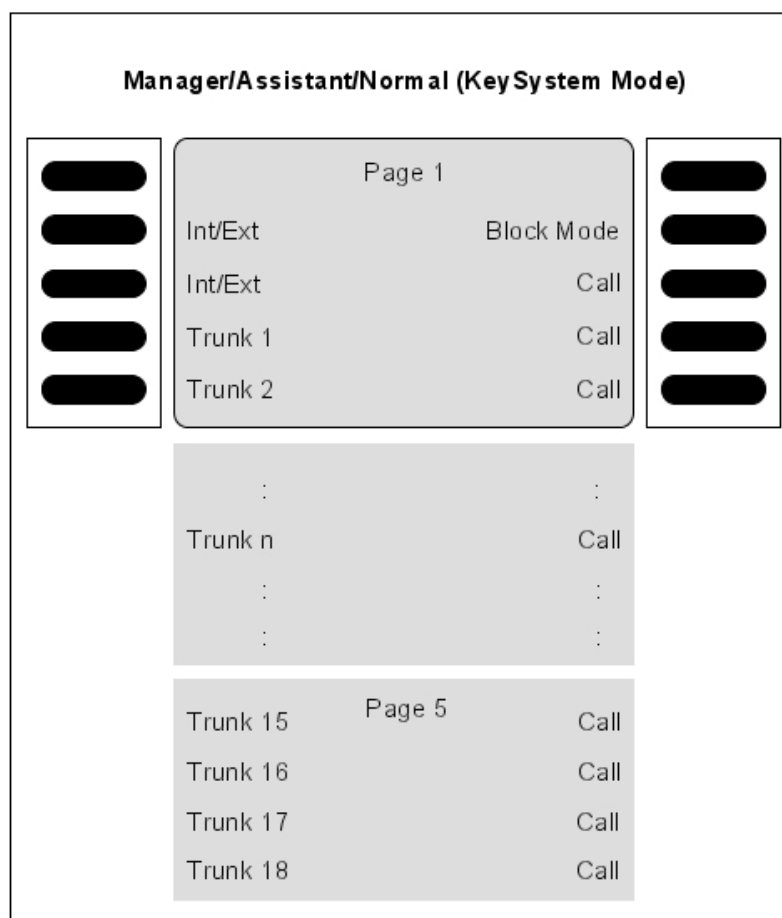


Figure 5.2: Virtual Key Functions for Manager/Assistant/Normal sets in KeySystem Mode

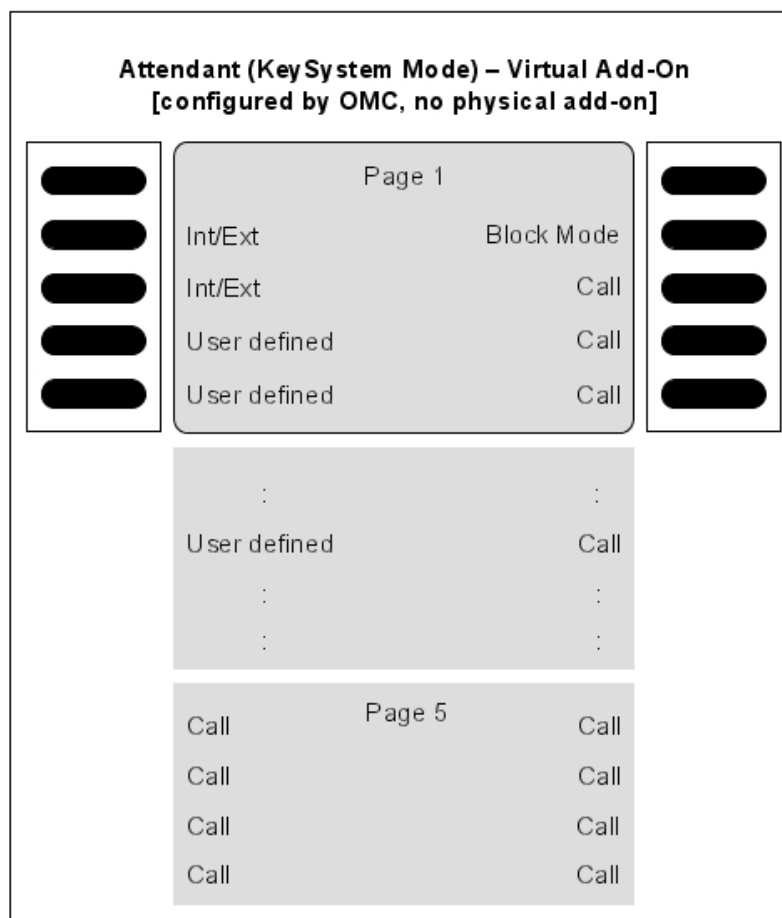


Figure 5.3: Virtual Key Functions for Attendant sets in KeySystem Mode (with no Physical Add-on)

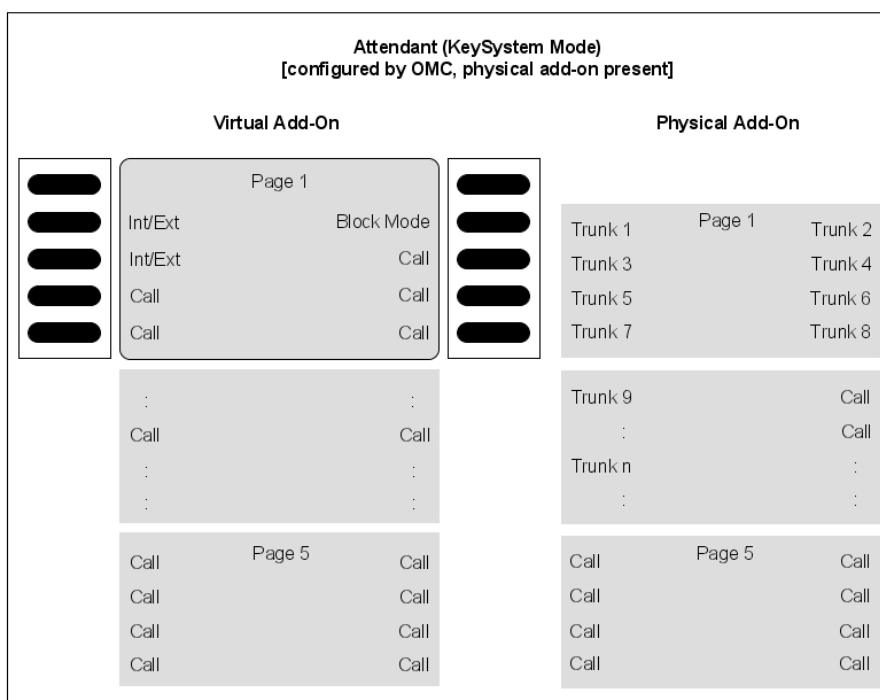


Figure 5.4: Virtual and Physical Add-on Key Functions for Attendant Sets in KeySystem mode

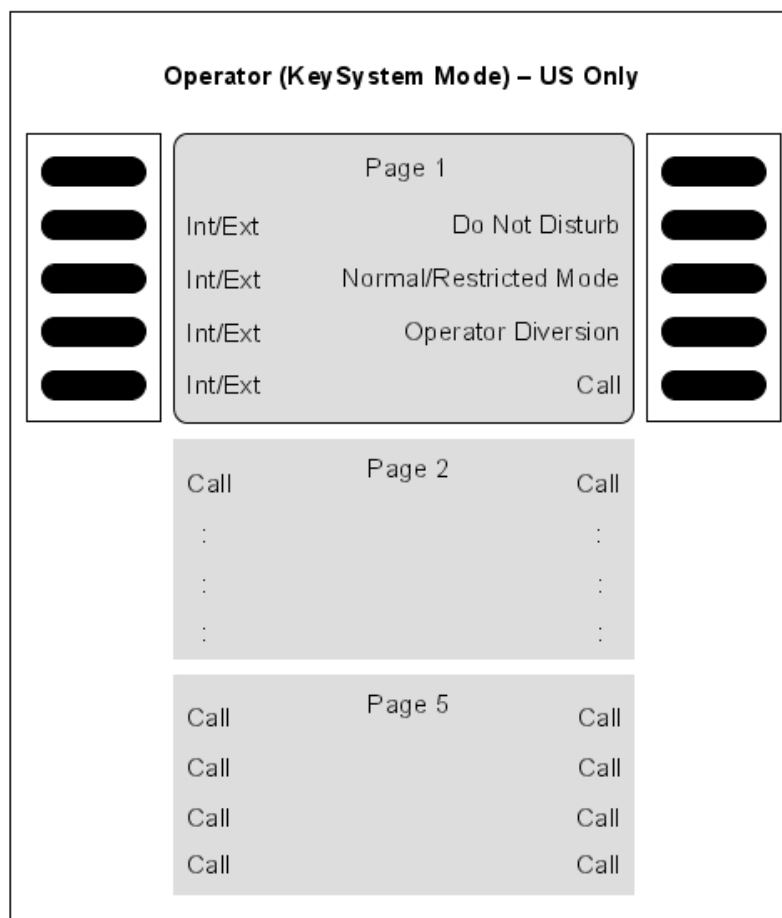


Figure 5.5: [US only] Virtual Key Functions for Operator Sets in KeySystem Mode

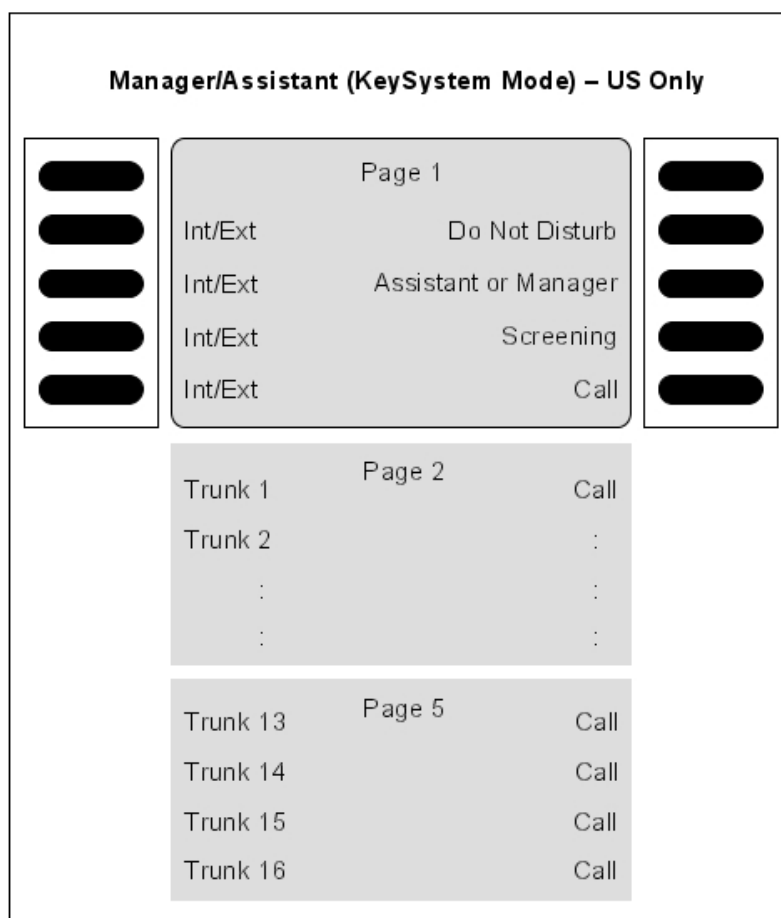


Figure 5.6: [US only] Virtual Key Functions for Manager/Assistant Sets in KeySystem Mode

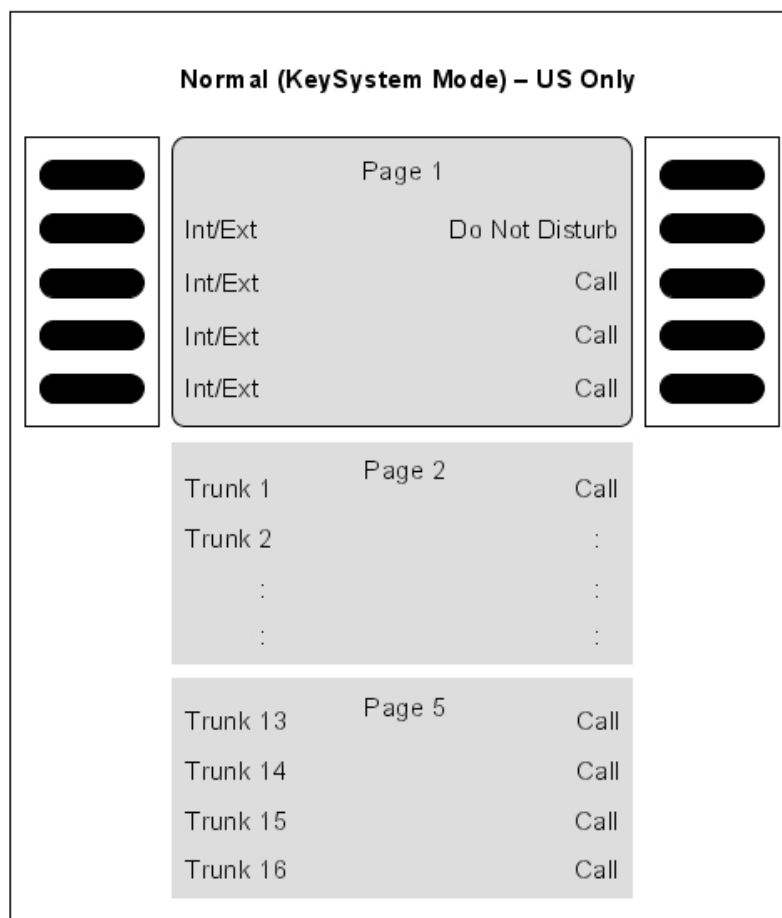


Figure 5.7: [US only] Virtual Key Functions for Normal Sets in KeySystem Mode

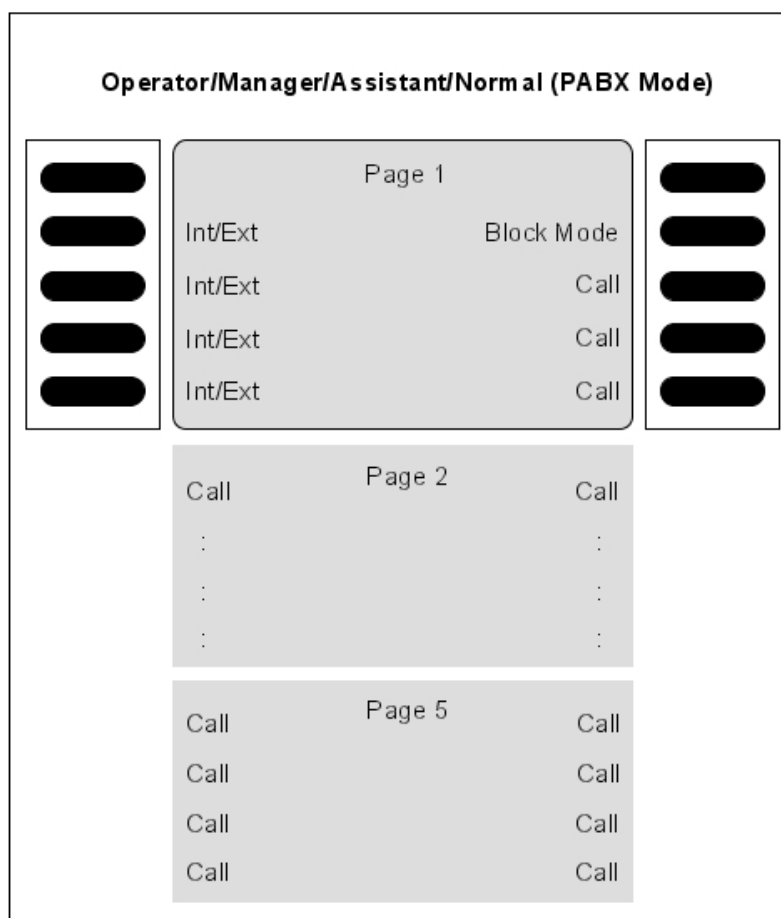


Figure 5.8: Virtual Key Functions for Operator/Manager/Assistant/Normal Sets in PABX Mode

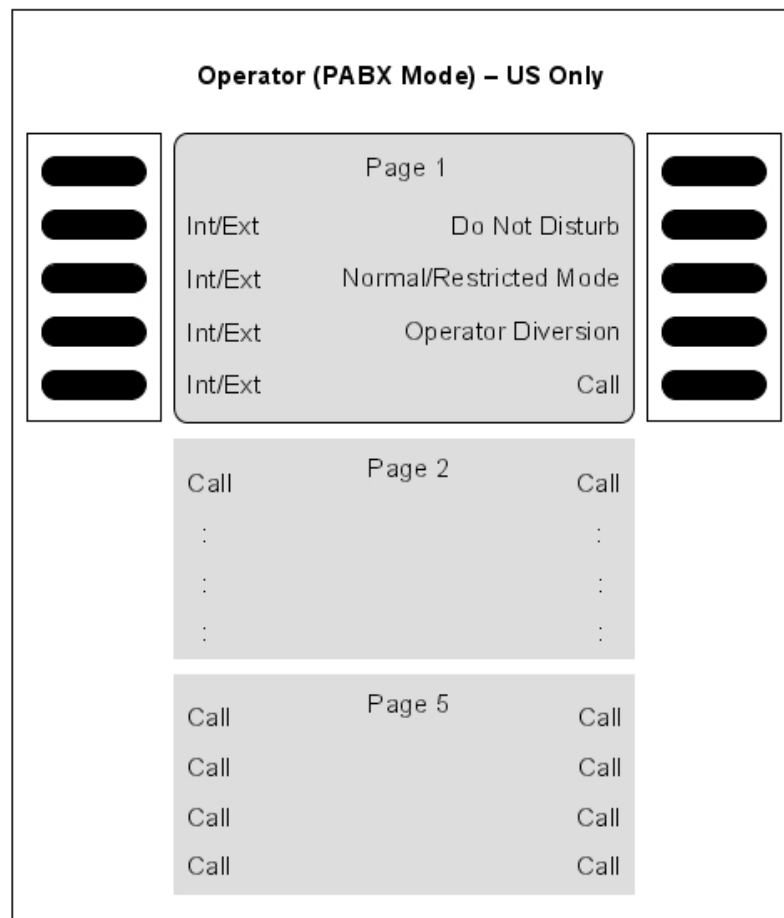


Figure 5.9: [US only] Virtual Key Functions for Operator Sets in PABX Mode

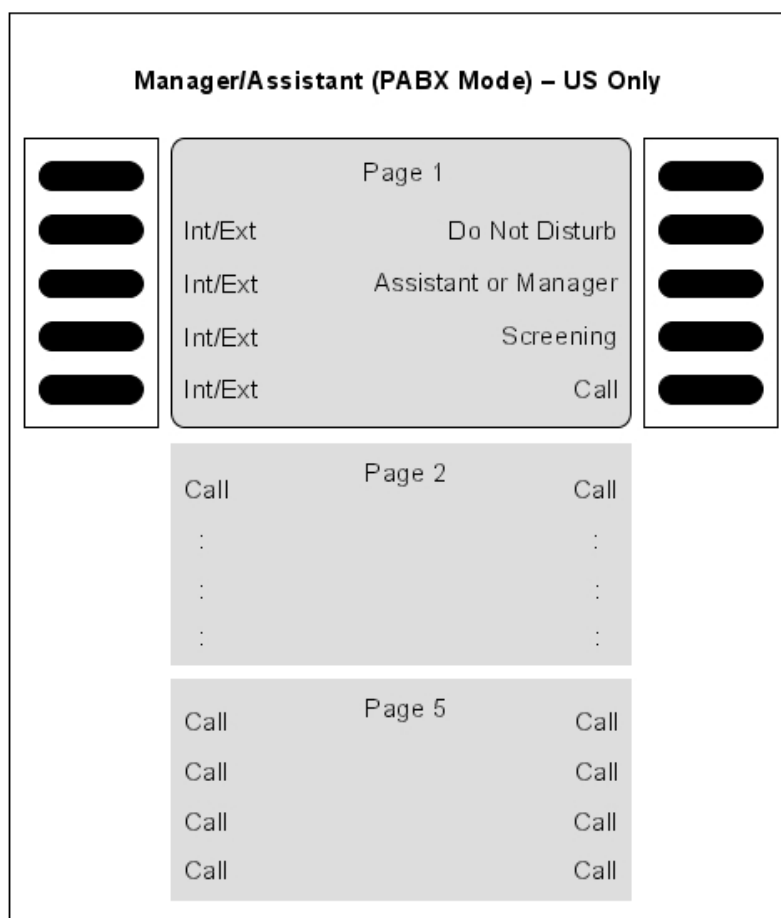


Figure 5.10: [US only] Virtual Key Functions for Manager/Assistant Sets in PABX Mode

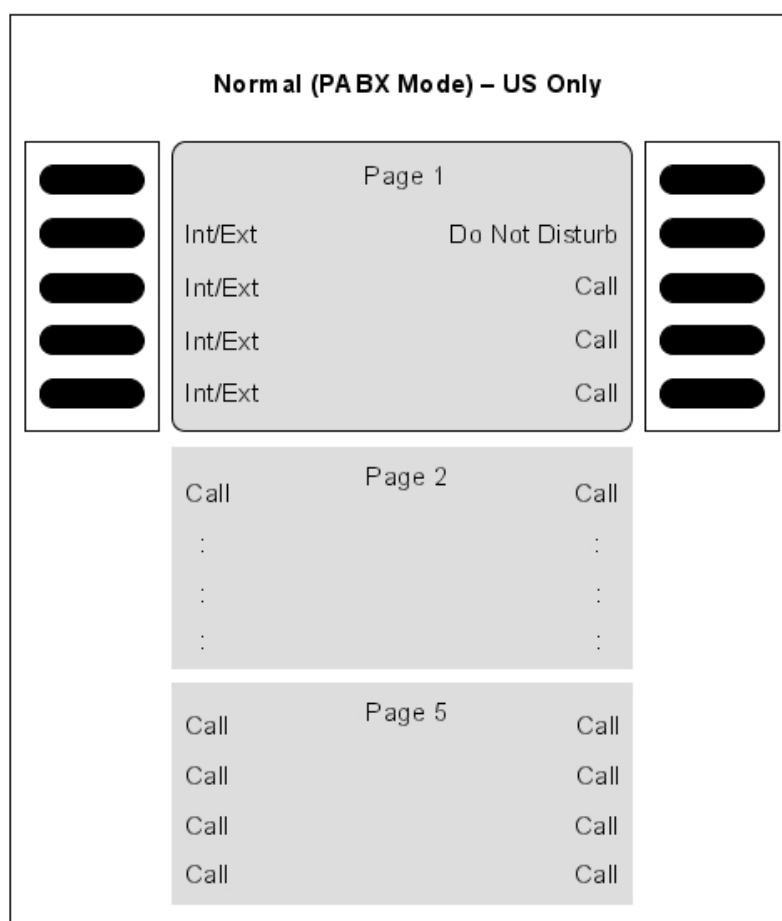


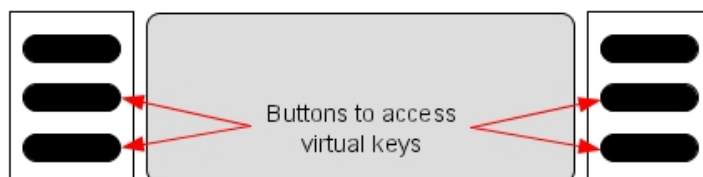
Figure 5.11: [US only] Virtual Key Functions for Normal Sets in PABX Mode

Alcatel-Lucent IP Touch 4028 Phone and Alcatel-Lucent 4029 Digital Phone sets

Each of these sets has 2 programmable keys (F1/F2) and 40 virtual add-on keys. Their default functions depend on:

- The configuration of the set (Operator, Manager, Assistant, Normal or Attendant)
- The market in which the set is sold (US or non-US)
- The operating mode of the set (KeySystem or PABX mode)

The default functions of these keys are the same as for the sets detailed in [§ Alcatel-Lucent IP Touch 4038 Phone, Alcatel-Lucent IP Touch 4068 Phone and Alcatel-Lucent 4039 Digital Phone sets](#) . However, in this case the virtual keys are selected using 4 physical buttons, 2 on each side of the set's display, as shown below.



There are 10 pages of virtual keys (the pages can be scrolled through using the up/down buttons of the set's 4-way navigator), with 4 virtual keys on each page.

Alcatel-Lucent IP Touch 4018 Phone and Alcatel-Lucent 4019 Digital Phone sets

Each of these sets has 6 programmable keys which have the default functions indicated below.

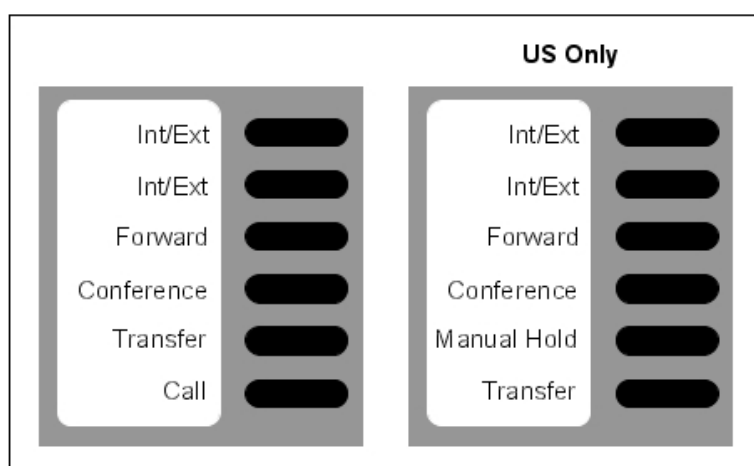


Figure 5.13: Key functions for Normal sets (in PABX mode)

5.1.1.1.2 OTHER PREDEFINED DATA

- **Level 1 dynamic routing of stations:** any unanswered call is routed to the voice mail unit after 12 seconds.
- **Level 2 dynamic routing of stations:** only external call are routed to the operator group after 24 seconds.
- **OS calls overflow to general level** (default operator group) after 24 seconds
- **The default operator group** contains the first two integrated voice server ports, general ringer, remote XRA access and the first Alcatel Reflexes interface (Operator station)
- All the stations (except analog stations) are given a voice mailbox.
- The first analog interface is a Fax.

6.1 System Startup from a Phone Set

6.1.1 Configuration procedure

You can start-up the system using a phone set, provided this phone set is either an Alcatel-Lucent IP Touch 4038 Phone, Alcatel-Lucent 4039 Digital Phone, Alcatel-Lucent IP Touch 4068 Phone or an Advanced phone set.

The phone set used needs to be defined as the operator phone set, that is the first phone set connected to the system.








A start-up session is started automatically when the system is turned on for the first time. Follow this start-up session to enter the data required to operate the system.

The procedures below show the Alcatel-Lucent IP Touch 4068 Phone interface, but the menus are the same using the Alcatel-Lucent IP Touch 4038 Phone or Alcatel-Lucent 4039 Digital Phone interface and are similar using the Advanced interface.

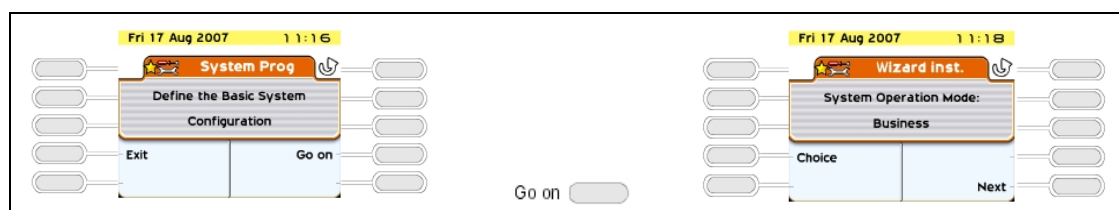
In order to facilitate the first start-up, it is recommended that you have the following information available:

- The number of your installation (international country prefix, national prefix, etc.).
- Basic metering unit value
- The ranges of numbers attributed by the network operator to the direct dial numbers (DDI) of the terminals in your installation.

6.1.1.1 GENERAL DYNAMIC KEYS

	Previous	Return to the previous menu	Next 	Go to the next menu
		Delete the last character	Cancel 	Cancel
	Choice	Move between the various options from those offered	OK 	Validate an entry
		Scroll up, down, left or right on the display		

6.1.1.1.1 First POWER-UP





To restart the session from the beginning during programming.



Attend ☐

To restart the session if you quit using the **Exit** function

6.1.1.2 SYSTEM TYPE

☐ Choice

: Used to define the system type: Business or Hotel

6.1.1.3 INSTALLATION NUMBER

This number must be entered in its entirety. The number of your installation can include a maximum of three fields for a total of 18 digits.


The fields must be separated by an asterisk.

Possible fields include:

- International country prefix (for example: 33 for France): obligatory field.
- National prefix: optional field (has no meaning in France).
- Public number of the installation: obligatory field.

6.1.1.4 NUMBERING PLAN



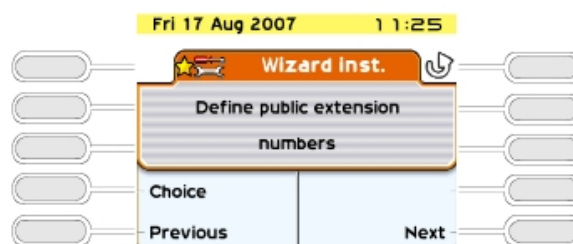
 Choice : Used to choose one of the pre-programmed numbering plans: (2 to 4 digits, national or with *).




Any modification of the numbering plan causes the deletion of any existing DDI numbers.

6.1.1.5 TERMINAL DDI NUMBERS

This function is used to define the DDI numbers (Direct Dialing Inwards) of all the terminals of a Business system and the Administrative terminals (dedicated terminals) of a Hotel system. **Only one DDI number can be attributed to each internal directory number.**



 Choice Access to the definition of terminal DDI numbers; displaying the first internal directory number/DDI number.



The direct number includes up to 8 digit and can be modified (the cursor is placed at the start of the field). The DDI numbers are generally the last 3 or 4 digits of your call numbers; the public operator will let you know the range of numbers that has been assigned to you.

<input type="button" value="Down"/>	or	<input type="button" value="Up"/>	Look through the list of internal directory numbers and validate the entry displayed.
<input type="button" value="Clear"/>	Delete the digits contained in the field "Direct no." (use the down arrow navigator key to display this option)		
<input type="button" value="Cancel"/>	Reject the complete list of DDI numbers as defined and return to the start of the function.		
<input type="button" value="OK All"/>	Validate the complete list of DDI numbers.		

The following error messages can appear when entering the data:

- **"Number already used"** : the DDI number is already attributed to another internal number.
- **"The specified number is outside the assigned range"** : invalid DDI number (it contains a * or # for example).
- **"Direct Dialing Table full"** : the maximum size of the table of public numbers (99 entries) has been exceeded.

The following function is only available for Hotel installations.



Access the definition of a pool of DDI numbers for hotel rooms; display the first DDI number.



10: Number of numbers still available in the DDI table after configuration of Direct Dial numbers.

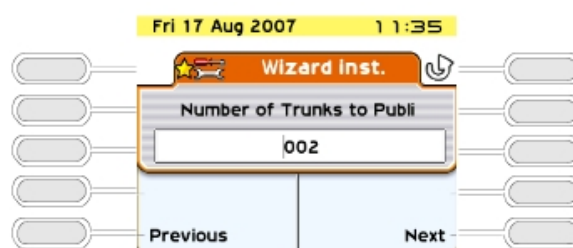
In a Hotel installation, all the Z terminals are used as hotel room terminals (except the first which is a fax and the second which is a public telephone).

A pool of DDI numbers means that these terminals can be assigned with a dynamic DDI number when a customer checks in.

The DDI numbers available depend on the number of numbers used by the administrative terminals (a total of 99 numbers (or ranges of numbers for direct numbers) are available in the table of public numbers for the system). The display shows the rank of the selected entry and the total number of entries available for the hotel rooms.

<input type="button" value="Down"/>	or	<input type="button" value="Up"/>	Look through the pool of DDI numbers and validate the entry displayed.
<input type="button" value="Clear"/>	Delete the digits contained in the field "Public no." (use the down arrow navigator key to display this option)		
<input type="button" value="Cancel"/>	Reject the complete list of DDI numbers as currently defined and return to the start of the function.		
<input type="button" value="OK All"/>	Validate the complete list of DDI numbers.		

6.1.1.6 NUMBER OF LINES CONNECTED TO THE PUBLIC NETWORK



This function is used to indicate the number of lines or B channels connected to the public network (120 lines or 120 B channels maximum). These lines are then introduced into the main bundle (depending on the order that the boards are taken into account) and made available using the resource keys. On the operator terminal, T2 access can include up to 30 B channels; T1 access up to 23 B channels; T0 access up to 2 B channels. The message **"Value exceed number of lines connected"** is displayed when the value entered is greater than the number of B channels connected.

6.1.1.7 OPERATION OF TERMINALS AND OPERATOR TERMINAL





This function is only available for a business installation (in a Hotel only PCX mode is used).

☐ Choice

"PCX Mode" and "Intercom Mode"

PCX Mode: all the lines are available using two RSB keys (= resource key specific to a bundle) .

Intercom Mode: the terminal has as many RSP keys (= resource key specific to an external access) as there are lines on the system. Refer to the "Default Configuration" section in this manual for a presentation of the function of the different keys for each type of terminal depending on the operating mode selected.



6.1.1.8 ATTRIBUTING MAILBOXES



This function is used for assigning a voice mailbox to the installation terminals:

☐ Choice

: choice between UA terminals, All terminals, and No terminal.

6.1.1.9 ARI NUMBER



This function is only available if your installation is fitted with DECT functions

The ARI (Access Right Identifier) number identifies the system uniquely to mobiles. It contains 11 octal digits (base 8). This number, assigned to an ETSI base by the installer, must be entered on installing the system.

The first digit cannot be modified and is always set to 1. The cursor is automatically placed on the second. The last digit is always either 0 or 4.

6.1.1.10 AUTHENTICATION



This is used to make secure data transmission between the system and DECT mobiles by using an authentication code during registration

☐ Choice : choice between "off" and "on".


If the authentication mechanism is "on", the following screen is displayed.



Each access code can have a maximum of ten digits. This can be limited to the first four digits if there are DECT stations other than the 100/200 Mobiles.

6.1.1.11 USER INFORMATION LANGUAGE



 Choice Choice of language used on all the stations in the installation (display and spoken help)

6.1.1.12 BASIC METERING UNIT COST



The value of the basic metering unit is introduced for calculating the cost of external calls. The cost (not the duration) and the changes in the charge meters during calls are displayed. The value entered can contain 5 figures (0-2 decimal places) in the chosen monetary unit. This service is dependent on the subscription made with the operator.

Note:

Changing by duration required an external application.

6.1.1.13 TIME & DATE

The current date and time must be entered. Enter the date in the format DD/MM/YYYY.



Enter the time in the format HH:MM.



The message **"Date and time must be programmed"** is displayed when the "Date" and "Time" fields are empty or contain the default values.

6.1.1.14 SYSTEM RESET

This menu is used to confirm resetting the system.



System reset; the display shows **"System reset in progress"**

After the reset, your system will operate with the new parameters entered.

6.2 System Startup from OMC

6.2.1 Overview

OMC is the PC application used to program the Alcatel-Lucent OmniPCX Office Communication Server system via a **local** connection (V24 or LAN) or a **remote** connection (the PC modem is connected to the Alcatel-Lucent OmniPCX Office Communication Server integrated modem via the public network).

Three levels of programming are available using OMC:

- **Easy View** is used for **Wizard** configurations, i.e. the essential parameters for starting the system.
- **EasyPlus View** is used for **wizard**-type configurations with the extensions offered by the **Advanced** key. This key opens a window which is equivalent to Expert View.
- **Expert View** gives you unrestricted access to all the configuration possibilities.

The **Wizard** provides easy-to-use system programming, guiding the user step-by-step.

Use the **Wizard** to configure Internet Access functions by entering the CPUe-1/CPUe-2 board IP address in the PC browser.

6.2.1.1 MINIMAL PC CONFIGURATION

- Pentium 166 MHz processor
- RAM: 128 Mb for Windows 2000 with SP4, Windows XP with SP2, or Windows Server 2003 with SP1
- Hard disk: 60 MB
- Screen: 800 x 600 pixels
- 1 mouse
- 1 serial port (connection to Alcatel-Lucent OmniPCX Office Communication Server for data transfer)

- 1 Ethernet board (IP mode only; not required when there is a V24 serial port connection to Alcatel-Lucent OmniPCX Office Communication Server)
- 64K (1 B-channel), or 128K (2 B-channels) PPP-compatible ISDN modem, or V34 modem for remote access

Note:

Before installing OMC, if the framework .NET is not installed on the PC, OMC will install it.

OMC release 6.0 will run on the following platforms:

- Windows 2000 (with SP4, and Windows installer 3.0 prerequisite), Windows XP (SP2), Windows 2003 (with SP1), Windows 2003 R2.

OMC release 6.0 will not run on the following platforms:

- Windows 9x, Windows ME, Windows NT, Windows 2000 without SP4, Windows XP without SP2 and Windows 2003 without SP1.

6.2.2 Installation procedure

6.2.2.1 INSTALLING THE OMC SOFTWARE

The OMC software is installed from a CD-ROM.

Install the application by choosing options in the various windows.

When installation is finished, you access the application either:

- by double-clicking on the new icon created on the Windows desktop, or
- by selecting **Start -> Program -> Alcatel-Lucent OmniPCX Office Communication Server -> OMC**. The window **Welcome to OMC** appears.

Caution:

When a PM5 version (former management application) is installed on a PC where an OMC version is already installed, the OMC version has to be reinstalled.

6.2.2.2 ACCESSING THE SYSTEM

There are two levels of access:

- Local access
- Remote access

6.2.2.2.1 Local access

Local access can be managed using:

- the LAN
- a V24 connection

Local connection using the LAN

The default IP address for the main CPU board is 192.168.92.246 for:

- A connection to the LAN port on the main CPU board via a UTP Category 5 5-100 ohm crossover cable.

- A connection to the switch connected to the main CPU board by a direct cable.

The PC IP address and network mask must be compatible with the Alcatel-Lucent OmniPCX Office Communication Server address. For example 192.168.92.1 and 255.255.255.0.

Local connection using V24

You must use a special reinforced cable to link the "Config" RJ45 connector on the system CPU to the Com port of the PC using OMC.

- **Wiring the connection cable**

RJ45	SUB D 9-point (F)
1	7
2	4
3	3
4	NC
5	5
6	2
7	6
8	8

- **Installation procedure**

1. Open the **OMC** software on the PC.
2. Select the **Expert** mode.
3. Click on the **Communication** menu.
4. Select the **Connect** menu.
5. Select the **Local** menu.
6. The system offers to install **Alcatel-Lucent OmniPCX Office Communication Server Direct V24**. Click on **Yes**. The **Modem options** window is displayed.
7. Click **Add**. The **Installation** window is displayed.
8. In the **Installation** window, check **Don't detect my modem. Propose the option in a list** and click on **Next**.
9. Select **Alcatel-Lucent** from the list of manufacturers.
10. Select **OmniPCX Office Direct V24**.
11. Select the Com port used.
12. Click **Next**.
13. Click **Finish**.
14. Click **Close**.
15. Back in OMC, click on **Communication**. The **local** box is now enabled and the Com port is displayed.
16. Click **OK** and enter the password.
17. Wait a few seconds for the OMC to connect to the system.

6.2.2.2.2 Remote access

Remote access can be managed using:

- an ISDN modem
- an analog V34 modem

Remote access using an ISDN modem.

Alcatel-Lucent OmniPCX Office Communication Server is equipped with an 64 K ISDN modem using PPP protocol for remote access through the public network. The following modems are validated:

- KORTX NOVAFAX ISDN 128000/33600 with PPP protocol
- FRITZ jX CAPI 2.0 or any standard "FRITZ" modem
- Multitech I Way Hopper MTA 128 ST 128 KBPS ISDN, with the specific ats58=3 configuration

ISDN 64 to 128 KPBS modems handling the PPP protocol are generally compatible and support CHAP authentication.

Follow the instructions in the installation manual supplied with the modem. Once installed, configure the modem for RAS.

To use it, simply select **Direct Modem** and click **OK**.

Remote connection by analog V34 modem

Alcatel-Lucent OmniPCX Office Communication Server is equipped with an analog modem V34 for remote access through the public network. Its main characteristics are:

- V34 Modem
- Maximum transmission speed: 33600 bds
- Hayes protocol

In the current version of the system, the V34 "US Robotic" modem has been validated. The other types of modems were not validated.

The procedures for installation and use are identical to the ISDN modem procedures, just replace the **FRITZ** modem by the **US Robotics** analog modem.

6.2.2.3 DOWNLOADING THE SOFTWARE

Alcatel-Lucent OmniPCX Office Communication Server is delivered either with:.

- A final software including all the countries parameters (S, M and L racks delivered in BTCO mode) or
- A software tool (Alcatel-Lucent OmniPCX Office Compact Edition system and S, M and L racks delivered in stock mode).
This software tool is installed on the CPU and must be updated with a further system software package (including the specific country parameters) also called country software, so that the installation is complete. The country software needs to be downloaded using OMC.

6.2.2.3.1 Downloading software for Alcatel-Lucent OmniPCX Office Communication Server (S, M or L racks delivered in BTCO mode)

To download the software, proceed as follows:

1. Open OMC.
2. Open the **Tools** folder.
3. Open the **OMC-Software Download** application.
4. In the **Communication Mode** window, select the type of download:
 - Local
 - Modem Direct
 - Modem Call Back
 - LAN
5. Enter the password **pbxk1064**.
6. The **OMC-Software Download** window opens. This window has several areas:
 - A parameter setting area:
 - Select the directory containing the descriptor file for the new software release. By default this file is in the BOOT directory. Use the **Delivery file** drop down menu.
 - Select the country for the new software release. Use the **...Delivery** drop down menu in the **Country & Supplier...** area. As an indication, the **PBX** field gives the country of the currently used software release.
 - Download all the files (by checking the **Download all files** box) or just those whose **Action** field contains the value **Install**.
 - Save the data.
If the **Data saving** box is checked, the system automatically saves and restores the data after having swapped over to the new software release.
If the **Data saving** box is not checked, you must use OMC to save the data with the new version (R2.1) before starting the download. You must restore this data after the download is complete.
 - Download the files needed for the Voice over IP features.
Depending on customer needs, check the **Voice over IP services PBX download** box.
 - Download the files required for remote access.
Depending on customer needs, check **Remote Access Service**.
 - Download the files required for Internet services.
According to customer needs, check **Internet Services**.
 - Select the language of the voice guides to download.
Click on the **Languages** button to access the **Languages Download** window.
 - Define a time zone by selecting a city and country.
Click on the **Time Zone** button to access the **Time Zones Download** window.
 - Define the software swap mode.
In the **Software Exchange** area, there are two possible choices:
Click on the **After OMC disconnect** button to swap immediately. The swap starts when you quit the downloading application.
Click on the **Date** button and indicate the required date and time for a delayed swap.

Remark:
If you select immediate switching, it will take effect as soon as you quit the download application.
 - A read only zone

- The **Downloadable Item** area allows you to see the different versions of the applications constituting Alcatel-Lucent OmniPCX Office Communication Server.
- The **Action** column lists the files to download.
- The bottom part of the window shows download progress. Each downloading and acknowledgement action produces a message.

7. Click **Start** to start downloading.

6.2.2.3.2 Downloading software for Alcatel-Lucent OmniPCX Office Compact Edition (and S, M, L racks delivered in stock mode)

Remark:

Because the Alcatel-Lucent OmniPCX Office Compact Edition does not use internal backup batteries like the other racks S, M or L, it is important not to cut off the cabinet's main power supply during software download. Any power shut down during the BIOS downloading will damage the CPU.

To download the software, proceed as follows:

1. From OMC, connect to the system.
If it is the first connection to the system, a Warning window is automatically displayed.
2. Click on the **Download** button.
3. Enter the IP address and the password of the PC.
The **OMC - Software download** window is displayed.
4. In the **Delivery file** field, select the path to access the system software installed on your PC.
5. Using the **...Delivery** drop-down menu in the **Country & Supplier...** area, select the country where the system will be installed.
6. Click **Start**.
When download is complete, the message **Session successfully finished** is displayed.
7. Click **Exit** to quit the downloading tool. The system will swap on the new software version and will be available within a few minutes.

Note:

When available, a new BIOS version in the Alcatel-Lucent OmniPCX Office Compact Edition software will not be automatically included in the list of items to be downloaded from the system. You must select and include the new BIOS version manually.

6.2.3 Services provided

OMC offers five operating modes:

1. Mode 1: **Data and tool repository**
2. Mode 2: **Typical installation**
3. Mode 3: **Typical modification**
4. Mode 4: **Expert**
5. Mode 5: **Multisite**

Important:

Access to modes 2, 3, 4 and 5 is password protected: pbxk1064 (using the OMC tool)

Access to modes 2 and 3 is password protected: help1954 (using the OMC Easy tool)

6.2.3.1 Mode 1: Data and tool repository

This mode is used to create .crp files offline (collective customer directories) which are used in the **Typical Installation** menu.

6.2.3.2 Mode 2: Typical installation

This mode is used for online manual programming by choosing between **Company** and **Hotel** and automatically on-line using .crp files.

Remark:

*The choice **Company/Hotel** is only offered once. It is necessary to perform a cold reset to see it again.*

6.2.3.2.1 Initial Business Installation Wizard

- Default Numbering Plan
- Installation number
- Operating mode
- Channels and Bundles
- DECT ARI
- Creation of DECT handsets
- Metering
- Date and time
- Terminal List
- Various Subscribers
- Collective speed dial
- OS groups
- Call groups
- Broadcast groups
- Intercept groups
- Screening

6.2.3.2.2 Initial Hotel Installation Wizard

As well as the Business configuration, this wizard can be used to configure terminal numbers in the hotel rooms.

6.2.3.2.3 Installation Wizard

This wizard enables you to use a .crp type file created under **Data and tool repository -> Information Repository Wizard**.

Follow the instructions; if the data is accepted it is transmitted to the system which is then reset.

6.2.3.3 Mode 3: Typical modification

The 5 icons available in this mode (Terminals, Groups, System, Collective Directory and External Lines) are used to gain access to the wizards used to modify or configure simply various parameters as detailed below.

The data will be taken into account by the system after clicking **OK**.

6.2.3.3.1 Subscribers

- List of subscribers: public number, name, discrimination level, accessible network line groups.
- Dividing calls between normal mode and restricted mode.
- **EasyPlus View:** detailed parameters for each subscriber: keys, languages, authorized usage, personal code, callbacks, dynamic forwarding, personal directory, etc.

6.2.3.3.2 Groups

- **OS Groups**
 - Making groups: introducing members into each group
 - Assigning a welcome message to each group
- **Call Groups**
 - Name and type (parallel, cyclical or sequential)
 - Making groups: introducing members into each group
 - Assigning a welcome message to each group
- **BTS Clusters**
 - Name of each group
 - Making groups: introducing members into each group
- **Call pick-up groups**
Making groups: introducing members into each group

6.2.3.3.3 Collective Speed Dial

The name and destination number of the call for each entry.

6.2.3.3.4 System

- **Default numbering plans**
 - Choose between national numbering plans or a 2, 3 or 4-digit star plan.
 - **EasyPlus View:** Normal service public numbering plan
 - **EasyPlus View:** Restricted service public numbering plan
 - **EasyPlus View:** Order codes
 - **EasyPlus View:** Internal numbering plan
- **Installation numbers**
 - International code
 - National code
 - Installation number
 - **EasyPlus View:** Call back prefix
 - **EasyPlus View:** Customized caller number
 - **EasyPlus View:** Private installation number

- **Metering**
 - Cost of telephone metering
 - **EasyPlus View:** Hotel metering cost for current currency unit (VAT, prepayment amount, etc.)
 - **EasyPlus View:** Metering options for current monetary unit
 - **EasyPlus View:** Print parameters
 - **EasyPlus View:** Metering options for replacement currency (Euro)
- **Date and time**
- **Software keys**
 - System Key
 - CTI Key

6.2.3.3.5 External Lines

- B-Channel number
- External number for incoming calls (DISA)
- Type of dialling

6.2.3.4 Mode 4: Expert

This mode cannot be accessed from OMCEasy.

This mode allows all modification and system maintenance. The wizards available in modes 2 and 3 are also accessible.

6.2.3.5 Mode 5: Multisite

This new mode is available with Easy, EasyPlus and Expert Views. It allows you to manage several Alcatel-Lucent OmniPCX Office Communication Server systems.

The Multisite feature includes the following basic services:

- An Installation Wizard to help installers and administrators to set up appropriate configurations when adding PBXs to a network.
- The automatic replication of data common to all networked PBXs. Common data is pushed from a reference PBX to all other secondary PBXs in the network.
- The automatic synchronization of Phonebook names and phone numbers.

Note:

The OMC Multisite feature is designed for setting up PBX networks from scratch. Large parts of the PBX settings are overwritten when configured PBXs are added to a network.

6.3 Internet access installation

6.3.1 Overview

With Alcatel-Lucent OmniPCX Office Communication Server, several computers can be connected to the company's LAN and access Internet services and applications through a shared Internet connection. The proposed Internet services are available even if Internet access is not established through Alcatel-Lucent OmniPCX Office Communication Server.

This section will cover the following items in turn: types of Internet access, Internet services, Internet services administration systems, hardware and creating the Internet connection.

6.3.1.1 TYPES OF INTERNET ACCESS

6.3.1.1.1 Internet access via Alcatel-Lucent OmniPCX Office Communication Server

Alcatel-Lucent OmniPCX Office Communication Server is used to connect to the Internet by three types of access.

- **ISDN:** shared access (T0 or T2) to the Internet, restricted to 2 B channels
- **DSL Modem/Cable Modem:** connects Alcatel-Lucent OmniPCX Office Communication Server to the Internet using an external DSL modem/Cable modem connected to the system using a WAN interface.
- **External router:** connects Alcatel-Lucent OmniPCX Office Communication Server to the Internet using an external router connected to the system using a WAN interface.

6.3.1.1.2 Indirect Internet access

LAN server

In "LAN Server" functioning, Alcatel-Lucent OmniPCX Office Communication Server does not offer Internet access. When connected to the company LAN, the LAN server offers all the services available on Alcatel-Lucent OmniPCX Office Communication Server, with the exception of the firewall. Internet access is achieved through another interface.

6.3.2 Services provided

The services available with Alcatel-Lucent OmniPCX Office Communication Server Internet access depend on the hardware and software keys purchased. The following services are available:

- **Internet Access:** the system offers several methods of connection to the Internet Access Provider (IAP):
 - Connection on demand:
 - Connection on demand with callback:
 - Always-on connection
- **Connection protocol:**
 - ISDN: MPPP, PPP
 - DSL Modem/Cable Modem: PPTP, PPPoE or IP over Ethernet
 - External router: OmniPCX Office communicates with the IAP via the external router. The protocol used depends on the external router.
- **LAN Functions:** DNS server and DHCP integrated, as well as the routing table.
- **NAT:** address translation is used to internally store private IP addresses and to use only one public address.
- **Protection by integrated firewall:** the integrated packet filtering and IP address translation functions offer protection to the LAN against the Internet.
- **Antivirus:** The anti-virus software protects the electronic messaging as well as the HTTP and FTP flows. This software is hosted on a server connected to the same LAN as

Alcatel-Lucent OmniPCX Office Communication Server.

- **Access control:** Alcatel-Lucent OmniPCX Office Communication Server offers control solutions for user access by integrated proxy.
- **Integrated cache:** this function speeds up Internet requests, thereby reducing the cost of access to the telephone network.
- **E-mail server:** enables users to have a personal e-mail address within the company.
- **VPN:** this solution authorizes secure connections to the LAN via the Internet infrastructure. This means distant users can benefit from all the resources on the LAN.
- **Dynamic DNS:** It enables the automatic update of a domain name and a machine name when the IAP assigns a new IP Address.
- **Web Communication Assistant:** it is a Web application designed for Alcatel-Lucent OmniPCX Office Communication Server end users to help them manage in-house corporate communication (e-mails and voice messages).

All these services are configured via a secure Web interface; Web-based Management (WBM).

6.3.3 WBM Managing Tool

6.3.3.1 Overview

Web-Based Management (WBM) is an Alcatel-Lucent OmniPCX Office Communication Server Internet service administration tool.

WBM functions with Internet Explorer (release 5 and later) or Netscape Navigator (release 6 and later). It uses a secure Web interface. WBM can be used either directly via the LAN, or remotely from the WAN if this option is enabled.

6.3.3.1.1 ADMINISTRATION LEVELS

The WBM has two administration levels:

1. Administrator level

The administrator configures all the Alcatel-Lucent OmniPCX Office Communication Server Internet services. To use the WBM at administrator level, you must log on using:

- either a user account belonging to a group that has administrator rights.
- or the default "admin" account.

2. Operator level

To facilitate Alcatel-Lucent OmniPCX Office Communication Server administration and enable administrators to delegate certain tasks, the WBM can be administrated by a local administrator called an operator. The operator has limited rights. To use the WBM at operator level, you must log on using:

- either a user account belonging to a group that has operator rights.
- or the default "operator" account.

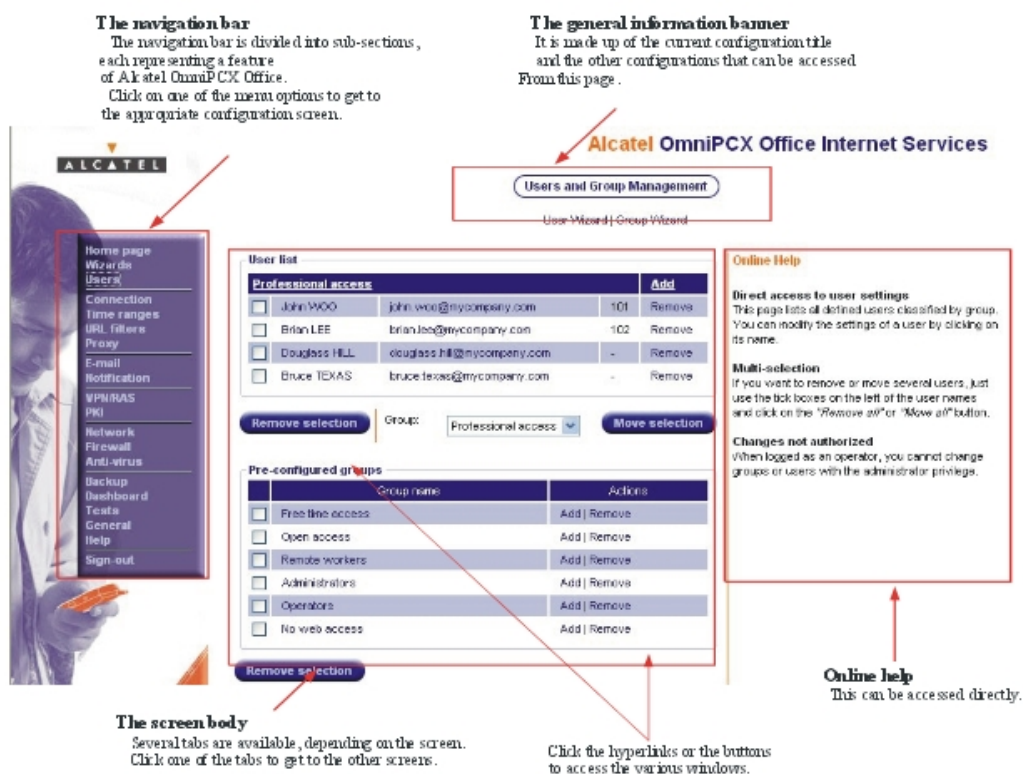
6.3.3.1.2 INTERFACE DESCRIPTION

The main characteristics of the interface are:

- The use of hyperlinks, tables, buttons and wizards,
- direct access to a contextual online help,

- verification of information prior to validation,
- the possibility of choosing the display language (French, English, German, Italian, Spanish, Portuguese or Dutch). The language is configured in the Web navigator.

The following diagram illustrates the main elements in a screen.



The WBM interface contains three screen types:

1. The wizard screens

They allow rapid simple configuration of the Internet services. The administrator can access the following wizards:

- Connection
- User
- E-mail
- VPN Tunnel
- VPN Customer
- Backup
- Anti-virus
- RAS

Remark:

The operator can only access the User wizard.

2. the administration screens

These screens are accessed by clicking on the corresponding hypertext link in the

navigation bar. The administration screens give access to the lists of:

- Users per group
- Connection profiles
- Time Ranges
- URL filter
- Mailing lists
- Teleworker and VPN services
- Certificates and revocation lists
- Firewall rules
- Backups performed
- System information
- Test tools
- Software keys

From the administration screens you can access the configuration screens.

3. **the configuration screens.**

The following screens are associated with the administration screens: Users, User Groups, Connection Profile, Time Range, URL Filter, Firewall Rule and Mailing List.

The following screens are used to directly configure the associated features:

- Proxy
- E-mail
- RAS
- Network
- Firewall
- Backup
- Anti-virus

6.3.3.1.3 CONNECTION TO WBM

For an administrator or operator, the procedure for connecting to the WBM is as follows:

1. Open the Web navigator.
2. Enter the following address in the **Address** field of the Web navigator:
https://<Alcatel-Lucent OmniPCX Office Communication Server>/admin
 where <Alcatel-Lucent OmniPCX Office Communication Server> is the machine's IP address or name.
 You go to the **Web-Based Management - Authentication** page.

Caution:

For the first WBM connection (i.e., installation), instead of accessing the login page directly you access the Start-up Assistant. Here you will be asked to change the administrator and operator passwords.

3. In the **Administrator/operator authentication** area, type in either:
 - A user name belonging to a group that has administrator rights or "admin", followed by the associated password.
 - A user name belonging to a group that had operator rights or "operator" followed by the associated password.
4. Click on **Connect**. Your service connection is established.
 Depending on your profile (administrator or operator), the **WBM Administrator Home**

Page or the **WBM Operator Home Page** is displayed directly. It presents a summary of the system's activity.

6.3.3.1.4 How to disconnect

To disconnect, click on **Disconnect** in the navigation bar. Your connection has been deactivated.

Remark:

After 30 minutes of inactivity, disconnection is automatic.

6.3.4 Connecting your e-communication server to the LAN

6.3.4.1 Configuration procedure

The necessary hardware on Alcatel-Lucent OmniPCX Office Communication Server is:

- a CPUe-1/CPUe-2 board
- an ISDN T0 or T2 connector
- a client station connected to the LAN
- a LAN switch (LANX8, LAN X16 or external switch)

The items required on the client terminal are:

- the latest release of the OMC software for the administrator
- an Internet browser: Internet Explorer (release 5 or later) or Netscape Navigator (release 6 or later)
- a subscription to an Internet Service Provider

6.3.4.1.1 Installation procedure

1. Start a OMC session on socket RJ45 of the CPU board.
2. Change the IP default address on the Internet Access board to an IP address that is compatible with the existing LAN.
3. Connect the CPU board to an available RJ45 socket on the LAN using an Ethernet cable.



The IP addresses of the different cards can be accessed through the heading **OMC ->**

PABX Client -> Hardware and limits-> IP cards.

6.3.5 Setting an Internet Connection

6.3.5.1 Configuration procedure

6.3.5.1.1 SUBSCRIPTION TO A ISP

A subscription with an ISP is necessary to access the Internet. After you have subscribed, the ISP sends you back **essential** information for installing your Internet access. This information must be entered when configuring Alcatel-Lucent OmniPCX Office Communication Server.

The information required to install the Internet access varies according to the type of connection to be established.

ISDN connection	<ol style="list-style-type: none"> Connection account: <ul style="list-style-type: none"> User name: account delivered by the access provider. This is a unique account and authenticates the user when connecting. Password: password associated with the connection's user name Telephone number: the telephone number dialed for connection to the ISP Bandwidth: this is the connection rate between Alcatel-Lucent OmniPCX Office Communication Server and the access provider (1 64 Kbps B channel, 2 128 Kbps B channels or on demand (64-128 Kbits/s). Connection type: connection between Alcatel-Lucent OmniPCX Office Communication Server and the access provider: On demand, Always on or Callback IP Address: the IP address is allocated to Alcatel-Lucent OmniPCX Office Communication Server by the access provider Primary and secondary name server: IP addresses of the DNS servers on the premises of the access provider.
Connection DSL modem/Cable modem	<ol style="list-style-type: none"> Connection account: <ul style="list-style-type: none"> User name: account delivered by the access provider. This is a unique account and authenticates the user when connecting. Password: password associated with the connection's user name Connection protocol: <ul style="list-style-type: none"> If PPPoE (this protocol is used to send PPP packets over the Ethernet) <ul style="list-style-type: none"> Connection type If PPTP (this protocol consists of establishing an IP tunnel between Alcatel-Lucent OmniPCX Office Communication Server and the modem) <ul style="list-style-type: none"> Modem's IP address Network mask IP address of the 2nd WAN interface Primary and secondary name server: IP addresses of the DNS servers on the premises of the access provider.
External Router Connection	<ol style="list-style-type: none"> Router's IP address System's IP address: this is the IP address of the WAN interface. This parameter must be consistent with the IP address of the router or of the DSL modem/Cable modem. Network mask: parameter determining the range of the network. Primary and secondary name server: IP addresses of the DNS servers on the premises of the access provider.
LAN server	<ol style="list-style-type: none"> Router's IP address Primary and Secondary Names Server or Router IP address

6.3.5.1.2 CONFIGURATION OF AN INTERNET CONNECTION

There are several ways to configure an Internet connection:

- creation of an ISDN type connection,
- creation of a DSL modem/Cable modem type connection,
- creation of an External Router connection,
- creation of LAN Server connection,

CREATION OF AN ISDN TYPE CONNECTION

Click on **Wizards** in the navigation bar. The assistants' icons appear.

1. Click on the **Connection Assistant** icon. The **Assistant connection** window displays.
2. In the **Profile identification** area, fill in the following field:
 - **Profile name:** this name identifies the new Internet connection managed by Alcatel-Lucent OmniPCX Office Communication Server. The profile groups together all the parameters associated with the connection. It is best to give it a name that represents the newly created connection - the name of the access provider, for example.
3. Check the **Configure this profile as the active profile** box if the profile you are creating is to be active (default value).
4. Click on **Next**. A new window appears.
5. In the **Connection type** area, click **ISDN**.
6. Click on **Next**. A new window appears.
7. In the **ISDN connection parameters** area, fill in the following fields:
 - **ISP phone number:** enter the telephone number dialled when connecting to the IAP. Must include any external line prefix for calling outside the company.
 - **ISDN bandwidth:** select the bandwidth type in the drop-down menu. Three choices are possible for the number of B channels used:
 - 64 kbps static (1 B channel)
 - Dynamic 64/128 Kbit/s (1-2 B channels): this option must not be chosen if the connection to the access provider is 64 Kbits/s.
 - 128 kbps static (2 B channels)
 - **Connection mode:** three choices are possible:
 - Dial on demand
 - Dial on demand - call-back allowed
 - Permanent connection
8. Click on **Next**. A new window appears.
9. In the **Authentication parameters** area, fill in the following fields:
 - **Account name:** enter the account name sent by the access provider.
 - **Password:** input the password associated to the connection's account name.
 - **Confirm the password:** enter the same password as was just entered. This confirmation filters out typing errors.
10. Click on **Next**. A new window appears.
11. In the **IP Address Allocation** area, you have two choices:
 - **Dynamic Allocation:** the ISP manages the IP address negotiation.
 - **Fixed IP address:** input the IP address provided by the ISP in the **Public IP Address** field.
12. In the **ISP's DNS** area, you have two choices:
 - **Dynamically find the ISP DNS:** the DNS resolution is automatic during connection.
 - **Set the ISP's DNS:** input the IP address for the ISP's primary DNS in the **ISP's primary DNS** field. We recommend keeping automatic DNS resolution.
13. Click on **Next**. The **Summary** window displays. This stage is used to verify the connection properties.
14. Click **Finish** to validate the parameters. Click **Previous** to return to the previous screens

and modify the desired parameters.

6.3.5.1.3 CREATION OF A DSL MODEM/CABLE MODEM TYPE CONNECTION

Click on **Wizards** in the navigation bar. The assistants' icons appear.

1. Click on the **Connection Assistant** icon. The "Connection Assistant" window displays.
2. In the **Profile identification** area, fill in the following field:
 - **Profile name:** this name identifies the new Internet connection managed by Alcatel-Lucent OmniPCX Office Communication Server. The profile groups together all the parameters associated with the connection. It is advisable to enter a name that is representative of the created connection, such as the name of the access provider.
3. Check the **Configure this profile as the active profile** box if the profile you are creating is to be active.
4. Click on **Next**. A new window appears.
5. In the **Connection type** area, click **DSL Modem/Cable modem (requires 2 Ethernet interfaces)**.
6. Click on **Next**. A new window appears.
7. In the **DSL Connection Parameters** area, choose the protocol used in the drop-down list **Connection's Protocol**:
 - **PPPoE (direct Ethernet connection)**
 - a. In the **Connection Mode** field, select **On Demand** if your access is not permanent.
 - b. Click on **Next**. A new window appears.
 - c. In the **Authentication parameters** area, fill in the following fields:
 - **Account name:** enter the account name sent by the access provider.
 - **Password:** input the password associated to the connection's account name.
 - **Confirm the password:** enter the same password as was just entered. This confirmation filters out typing errors.
 - d. Click on **Next**. A new window appears.
 - e. In the **IP Address Allocation** area, you have two choices:
 - **Dynamic Allocation:** the ISP manages the IP address negotiation.
 - **Fixed IP address:** enter the IP parameters supplied by the ISP.
 - f. In the **ISP's DNS** area, you have two choices:
 - **Dynamically find the ISP DNS:** the DNS resolution is automatic during connection.
 - **Set the ISP's DNS:** input the IP address for the ISP's primary DNS in the **ISP's primary DNS** field. We recommend keeping automatic DNS resolution.
 - g. Click on **Next**. The **Summary** window displays. This stage is used to verify the connection properties.
 - h. Click **Finish** to validate the parameters. Click **Previous** to return to the previous screens and modify the desired parameters.
 - **PPTP (tunnelling)**
 - i. Click on **Next**. A new window appears.
 - j. In the DSL Modem/Cable modem Connection area, fill in the following fields:
 - a. • **WAN interface IP address:** input the IP address of the WAN interface.

- **IP address of the DSL modem:** enter the IP address of the external modem.
- **Subnet mask:** enter the defined mask.
- b. Click on **Next**. The **Summary** window displays. This stage is used to verify the connection properties.
- c. Click **Finish** to validate the parameters. Click **Previous** to return to the previous screens and modify the desired parameters.
 - **IP over Ethernet**
- d. Click on **Next**. A new window appears.
- e. In the **ISP's DNS** area, you have two choices:
 - **Dynamically find the ISP DNS:** the DNS resolution is automatic during connection.
 - **Set the ISP's DNS:** input the IP address for the ISP's primary DNS in the **ISP's primary DNS** field. We recommend keeping automatic DNS resolution.
- f. Click on **Next**. The **Summary** window displays. This stage is used to verify the connection properties.
- g. Click **Finish** to validate the parameters. Click **Previous** to return to the previous screens and modify the desired parameters.

6.3.5.1.4 CREATION OF AN EXTERNAL ROUTER TYPE CONNECTION

Click on **Wizards** in the navigation bar. The assistants' icons appear.

1. Click on the **Connection Assistant** icon. The "Connection Assistant" window displays.
2. In the **Profile identification** area, fill in the following field:
 - **Profile name:** this name identifies the new Internet connection managed by Alcatel-Lucent OmniPCX Office Communication Server. The profile groups together all the parameters associated with the connection. It is best to give it a name that represents the newly created connection - the name of the access provider, for example.
3. Check the **Configure this profile as the active profile** box if the profile you are creating is to be active.
4. Click on **Next**. A new window appears.
5. In the IP Address Allocation area, you have two choices:
 - **Dynamic Allocation:** the ISP manages the IP address negotiation.
 - **Fixed IP address:** enter the IP parameters supplied by the ISP.
6. Click on **Next**. A new window appears.
7. In the **ISP's DNS** area, you have two choices:
 - **Dynamically find the ISP DNS:** the DNS resolution is automatic during connection.
 - **Set the ISP's DNS:** input the IP address for the ISP's primary DNS in the **ISP's primary DNS** field. We recommend keeping automatic DNS resolution.
8. Click on **Next**. The **Summary** window displays. This stage is used to verify the connection properties.
9. Click **Finish** to validate the parameters. Click **Previous** to return to the previous screens and modify the desired parameters.

6.3.5.1.5 CREATION OF LAN SERVER CONNECTION

Click on **Wizards** in the navigation bar. The assistants' icons appear.

1. Click on the **Connection Assistant** icon. The "Connection Assistant" window displays.
2. In the **Profile identification** area, fill in the following field:
 - **Profile name:** this name identifies the new Internet connection managed by Alcatel-Lucent OmniPCX Office Communication Server. The profile groups together all the parameters associated with the connection. It is best to give it a name that represents the newly created connection - the name of the access provider, for example.
3. Check the **Configure this profile as the active profile** box if the profile you are creating is to be active.
4. Click on **Next**. A new window appears.
5. In the **Connection Type** area, click **No Direct WAN Connection (LAN Server)**.
6. Click on **Next**. A new window appears.
7. In the **Default Gateway** area, fill in the following field:
 - **Default gateway:** enter the IP address of your router.
8. Click on **Next**. A new window appears.
9. In the **ISP's DNS** area, fill in the following fields:
 - **ISP's primary DNS:** enter the IP address of the access provider's primary DNS or the router's IP address if the access provider's DNSs are configured in the router.
 - **ISP's secondary DNS:** enter the IP address of the access provider's secondary DNS or the router's IP address if the access provider's DNSs are configured in the router. The configuration of a secondary DNS server is optional.
10. Click on **Next**. The **Summary** window displays. This stage is used to verify the connection properties.
11. Click **Finish** to validate the parameters. Click **Previous** to return to the previous screens and modify the desired parameters.

To configure access to other ISP's, repeat the above procedure starting from the **Assistants** menu. So it is possible to create several connections to various ISP with different types of connection.

6.3.5.1.6 TESTING THE CONNECTION

Click **Connection Test** in the general information banner or the **Test** button in the **Selecting the Active Connection Profile** area. The connection test runs all the stages involved in connecting to an ISP, and gives the causes and related solutions to solve the problem if the connection fails. The following tests are run in sequence:

- Initial state test: the system checks that the active ISP is in "Enabled" mode and that the connection can be established in the set time ranges.
- Call to the ISP's telephone number, or ping to the DSL modem/Cable modem or router.
- Authentication check: the system tests the authentication of the login and password in accordance with the protocol supported by the ISP (PAP/CHAP). This verification is performed during a connection using ISDN or DSL modem/Cable modem.
- IP address negotiation: the system sends back the IP addresses of Alcatel-Lucent OmniPCX Office Communication Server, and of the router on the IAP's premises. This negotiation is tested during an ISDN and DSL Modem/Cable Modem type connection.

- Testing the remote address by pinging the ISP's router. This checks that the router is working properly.
- DNS configuration check: this test is used to verify that the DNS configuration entered in the system is correct and, if not, it is used to dynamically locate the DNS servers present on the IAP's premises.
- Resolution of the IP address for the URL "www.ietf.org": checks that DNS resolution is working correctly.
- DNS ping: this test is carried out if DNS resolution isn't working. It ascertains whether the problem is due to an incorrect IP address or to the DNS service itself.
- Ping on www.ietf.org: tests the accessibility of a site present on the Internet.

7.1 Maintenance Level 1

7.1.1 Maintenance

This module provides maintenance advice on different hardware components of the Alcatel-Lucent OmniPCX Office Communication Server system.

7.1.1.1 BATTERY MAINTENANCE

Alcatel-Lucent OmniPCX Office Communication Server systems (except the Alcatel-Lucent OmniPCX Office Compact Edition) are supplied with internal batteries that provide back-up power in the event of a mains power failure. Alternatively, all systems may be optionally equipped with an external battery pack to provide back-up power.

To guarantee system shutdown without data loss in the event of a mains power failure or if the mains plug is unplugged from the wall socket, **replace the batteries every two years**. This maintenance operation is vital to guarantee sufficient power autonomy to allow the files to be saved before the system shuts down.

Before replacing batteries, the system must be powered down and the power cable removed from the mains supply.

- To replace internal batteries, the rear panel of the system cabinet must be removed and the battery drawer pulled out.
- To replace external batteries, the external battery box must be opened.



To maintain a good balance, replace all the batteries at the same time with batteries of the same type, from the same manufacturer and from the same batch.



Make sure you respect the correct polarities when replacing batteries. There is a risk of explosion if the batteries are incorrectly replaced. Used batteries must be disposed of according to the battery manufacturer's instructions.

The batteries are supplied uncharged. File saving in the event of a power failure can only be guaranteed once the batteries have been charged; that is, about 12 hours after turning on the system (CPU-1/CPU-2/CPU-3/CPUe-1/CPUe-2 switch in ON position).

7.1.1.1.1 Internal battery characteristics

- number: 1 (Rack 1), 2 in parallel (Rack 2) or 3 in series (Rack 3)
- sealed lead battery
- 1,2 Ah / 12 V
- fire resistance better than or equal to UL94-V2

7.1.1.1.2 External battery characteristics

- number: up to 2 for CE and Compact Edition 2nd Generation, up to 3 for S and M systems, up to 6 for L systems

- sealed lead battery
- 7 Ah / 12 V
- fire resistance better than or equal to UL94-V2

7.1.1.2 BOARD BATTERY MAINTENANCE

It is recommended that the batteries in the CPU-1/CPUe-1, CPU-2/CPUe-2, CPU-3, CPU-3m, CPU-4, CoCPU-1, and CoCPU-2 boards should be replaced by batteries of the same type every two years. Dead batteries must be disposed of according to the battery manufacturer's instructions.

7.1.1.3 MAINTENANCE OF VENTILATION SYSTEM

At the same time as replacing the batteries, clean the system ventilation holes using a brush or a lint-free cloth.

When a fan fails, only the T0/T2 external digital accesses and the first two interfaces of the Alcatel Reflexes stations remain operational.

7.1.1.4 REPLACING THE CPU-1/CPU-2/CPU-3/CPU-3m/CPU-4/CPUe1/CPUe2 BOARD

It is necessary to adapt the software key after replacing the CPU-1/CPU-2/CPU-3/CPU-3m/CPU-4/CPUe-1/CPUe-2 (= CPU) board.

1. The new CPU board has no software key:

- You know the new software key corresponding to the new CPU:
 - Reboot the system with the new CPU: the system operates with default functionality
 - Load the new key using OMC; Procedure with MMC Station
 - Do a cold reset: the system operates with the possibilities offered by the new key
 - Restore the configuration (not the old key)
- You do not know the new key corresponding to the new CPU: use the old key until you can enter the new one (you have 30 days). The remaining actions are identical to those shown in the previous section

2. The new CPU software key corresponds to the serial number:

- The new key offers the desired level of service:
 - Reboot the system with the new CPU: the system operates with the desired level of service
 - Restore the configuration (not the old key)
- The new key does not offer the desired level of service: change the key

3. The new CPU board software key does not match the serial number:

One is in the same situation as case 1, except that the system boots with the level of service offered by the key on the CPU, with temporary validity.

7.1.1.5 ADDING AND REPLACING INTERFACE BOARDS

This section describes how to add an interface board into a vacant slot in the system and how to replace an existing board with a new one.

Note:

Always take anti-static precautions when handling boards. Before coming into direct physical contact with a board, make sure you touch a grounded metal surface to remove static charge from your body. When holding a board, always wear a grounding device such as a grounded wrist strap, and do not touch board components that are sensitive to static charge.

Before attempting board installation/exchange, note the following system rules concerning the detection of boards:

- A detected board is considered to be PRESENT
- A PRESENT board can be ACCEPTED or REFUSED, depending on the system dimensioning criteria
- On a cold reset, all PRESENT boards are taken into account (irrespective of whether they are ACCEPTED or REFUSED)
- A board which is PRESENT on a cold reset can later be determined as ABSENT on a warm reset if in the meantime the board has been unplugged or there has been a board detection failure
- After a cold or warm reset, new boards are always taken into account and declared as PRESENT (and then ACCEPTED or REFUSED)

The following table describes situations more specifically relevant to plugging/unplugging boards.

Situation	Description
A board is plugged into a slot never before occupied	The board is detected as PRESENT and then determined to be ACCEPTED or REFUSED (according to configuration criteria, such as authorized positions and maximum hardware capacity). If the board is accepted, its accesses are taken into account depending on the system dimensioning criteria.
A board is replaced with another board of the same type	
A board is replaced with another board of a different type	As above, except when the replacement board is plugged in, configuration data for the previous board is cleared.
A PRESENT and ACCEPTED board is unplugged	The board's disappearance is detected and the board is considered as out of order and then ABSENT. However, configuration data associated with the unplugged board remains available.
A PRESENT and REFUSED board is unplugged	The board's disappearance is detected and the board is considered as ABSENT. However, configuration data associated with the unplugged board remains available.

7.1.1.5.1 Adding a board into a vacant slot

The procedure presented below assumes that a board is to be installed in a vacant slot in the system cabinet.

Note 1:

Hot installation is forbidden in Alcatel-Lucent OmniPCX Office Compact Edition systems. It is also forbidden for CPU boards in all systems.

1. If a hot installation is not possible, stop the system and disconnect it from the mains power supply.
2. Locate the required vacant slot in the cabinet and remove the metal plate for this slot.
3. Taking anti-static precautions (for example, by wearing a grounded wrist strap), pick up the new board and plug it into the vacant slot.
4. Secure the end-plate of the board to the cabinet with the screw provided.
5. If you have stopped and powered down the system, reconnect it to the mains power supply and restart it.
6. Perform any configuration and/or tests required for the new board.

Note 2:

Following configuration in the OMC tool, you may be required to perform a warm reset of the system for the configuration changes to take effect. In this case, the software will prompt you to perform the warm reset.

7.1.1.5.2 Replacing an existing board

The procedure presented below assumes that an existing board is to be removed from the system and a replacement board (of the same or different type) is to be installed in the same slot in the system cabinet.

Note 1:

Hot swap is forbidden in Alcatel-Lucent OmniPCX Office Compact Edition and Alcatel-Lucent OmniPCX Office Compact Edition 2nd generation CS. It is also forbidden for CPU boards in all systems.

1. If a hot swap is not possible, stop the system and disconnect it from the mains power supply.
2. Locate the existing board to be removed in the cabinet and unscrew the securing screw from its end-plate.
3. Taking anti-static precautions (for example, by wearing a grounded wrist strap), pull the board out of its slot.
4. Taking anti-static precautions, pick up the replacement board and plug it into the now vacant slot.
5. Secure the end-plate of the board to the cabinet with the screw provided.
6. If you have stopped and powered down the system, reconnect it to the mains power supply and restart it.
7. Perform any configuration and/or tests required for the replacement board.

Note 2:

Following configuration in the OMC tool, you may be required to perform a warm reset of the system for the configuration changes to take effect. In this case, the software will prompt you to perform the warm reset.

7.1.1.6 HARD DISK MAINTENANCE

Please comply with the recommendations given below; any mistreatment of the hard disk (handling, transport, storage) can result in a shortened life and possible

malfunctioning of your installation.

7.1.1.6.1 Handling

- Always wear a discharge device (bracelet, heel clip, etc.) to protect against electrostatic discharges.
- Avoid any knocks to the hard disk
- Do not touch the connector
- Handle the disk by holding it by the sides

7.1.1.6.2 Storage

- All hard disks must be stored in an electrostatic protective bag
- Avoid contact between hard disks
- Do not pile them up (even when packed)

7.1.1.6.3 Transport.

- A hard disk can only be transported when packed in an electrostatic protective bag
- Avoid contact between hard disks
- Use standard packaging suited to transporting hard disks

8.1 Glossary**8.1.1 A*****Automatic Call Distribution***

A computerized phone system that responds to the caller with a voice menu, and connects the call to the required agent. It can also control call flows by automatically routing calls in the order of arrival.

ACSE

Association Control Service Element. OSI convention used for establishing, maintaining and releasing connections between two applications.

ADN

Additional Designation Number.

AFU

Auxiliary Function Unit. Daughter board of the CPU/CPUe/CPU-1/CPU-2/CPUe-1/CPUe-2/CPU-3 board supporting ancillary functions such as general bell, doorphone, audio in, audio out, etc.

AMIX-1

Mixed analog equipment board: analog accesses with CLIP functionalities, analog and Reflexes terminal connection interfaces.

AP

Access Point. A device that acts as a switch between the wireless LAN (802.11a, b, or g) and the wired LAN (802.3). There are two types of APs: Thin and Fat. The newer Thin technology AP consists of a thin AP and an access controller (also known as a wireless controller). Only the time-critical functions are managed by the thin AP. The other features are managed by the access controller.

APA

Analog Public Access. Board allowing the connection of analog network lines (switched network) with CLIP functionality. That board, equipped with GSCLI boards (Ground Start), is compatible with the American public network.

API

Application Programming Interface

ARI

Access Right Identifier. System identification number (DECT feature).

ARS

Automatic Route Selection. A logic direction is a set of trunks used for a call with the following facilities: seeking out the optimal path for a call, using the least-cost operator or network; overflow management: enables a PCX to find a new route to make an outgoing call when there are no resources available in the initial trunk.

ASN-1

Abstract Syntax Notation 1. OSI language for describing data types independently of processor structures and technical representations.

ATA

Analog Trunk Access. Board for connecting analog network lines (switched network).

8.1.2 B***BACKGROUND MUSIC***

External device (e.g. radio tuner) that can broadcast music over the loudspeakers of idle terminals; broadcasting is stopped automatically if there is an incoming call to the terminal or if the user makes a call.

BACP

Bandwidth Allocation Control Protocol. Control protocol associated with BAP.

BAP

Bandwidth Allocation Protocol. PPP protocol that manages bandwidth by allocating it dynamically between two ports, i.e. between the two extremities of a point-to-point link.

BOD

Bandwidth On Demand. Service that allocates bandwidth automatically in response to traffic volume.

BRA

Basic Rate Access. Board for connecting T0 or DLT0 digital basic accesses; each access supports a data rate of 144 kbps, structured as 2 B-channels at 64 kbps for voice and data transmission, and 1 D-channel at 16 kbps for signaling.

8.1.3 C**CCP**

Compression Control Protocol

CHAP

Challenge-Handshake Authentication Protocol. Security function supported on connections that use PPP encapsulation: prevents unauthorized access.

CIFS

Common Internet File System. This protocol is an extension to the SMB file sharing system. Its main benefit is to provide compatibility with locking operations and multiple SMB read/write operations.

CLIP

Calling Line Identification Presentation. Complementary service for digital protocols that allows the caller number to be presented to the called party.

CLIR/COLR

Calling/COnnected Line Identification Restriction. Service that inhibits CLIP or COLP.

CNIP

Calling Name Identification Presentation. Complementary service for private digital protocols (ISVPN or ABC-F) that allows the caller's name to be presented to the called party.

COLP

COnnected Line identification Presentation. Complementary service for digital protocols that allows the number of the connected user (the one who answers the call) to be presented to the caller.

CONP

COnnected Name identification Presentation. Complementary service for private digital protocols (ISVPN or ABC-F) that allows the name of the connected user (the one who answers the call) to be presented to the caller.

CPU

Central Processing Unit. Term designating the processor or microprocessor. The central processing unit executes computer program instructions.

CSTA

Computer Supported Telephony Application. ECMA standard that defines command exchanges between a PCX and a server.

CTI

Computer-Telephone Integration. Interaction mechanism between 2 sections, namely a data processing section (computer) and a telecommunications section (PCX), independently of the physical layout of the 2 sections.

8.1.4 D**DASS2**

Digital Access Signaling Specification number 2

DDI

Direct Dialing In. Direct external call number for the system terminals (depending on the configuration with the public network operator).

DECT

Digital Enhanced Cordless Telecommunication. European cordless telephony standard. DECT terminal: cordless terminal that complies with this standard.

DHCP

Dynamic Host Configuration Protocol. Protocol that manages IP address allocation dynamically so that addresses can be reassigned when no longer being used by LAN hosts.

Direct RTP

A feature which optimizes the RTP flow of VoIP in SIP, thus optimizing the number of VoIP CODEC resources.

DISA

Direct Inward Station Access. Services (Analog DISA and Transit DISA) enabling outside callers to dial a specific number giving direct access to the system.

DLL

Dynamic Link Library. Windows library linked dynamically to an application.

DLT0

Digital Line T0. Basic access configured with the QSIG protocol (= digital LIA).

DLT2

Digital Line T2. Private 2 MHz link in PRA mode (= digital ATL).

DNS

Domain Name Server. System used on the Internet for converting domain names or machine names into IP addresses. A domain name, unlike an IP address, is an easily memorized Internet address.

8.1.5 E

ECMA

European Computer Manufacturers Association

ETHERNET

Local network (LAN) operating at 10 or 100 Mbps (10 base T or 100 base T) over a coaxial cable. Ethernet is similar to the IEEE 802.3-series standards.

8.1.6 F

FoIP

Fax over IP. Refers to the message and data transmission from a G3 Fax using the Internet protocol (usually T38).

FTP

File Transfer Protocol. Standard protocol for exchanging files between remote computers over the Internet.

FTP/STP/UTP

Foiled Twisted Pairs/Shielded Twisted Pairs/Unshielded Twisted Pairs. Types of connection cables to be used between an Alcatel-Lucent OmniPCX Office Communication Server and an external distribution panel.

8.1.7 G

GATEKEEPER

Secure directory server

GATEWAY

Device connecting different networks

GENERAL BELL

If the operator is absent, internal and external calls to the operator are directed to an external signaling device that lets any authorized terminal take these calls.

8.1.8 H**H.323**

ITU standard for multimedia communication (voice, video, data).

H.450

Additional services associated with H.323 version 2.

HSL

High Speed Link. Link between the basic module and an add-on module; requires an HSL daughter board to be fitted on the CPU and MEX boards.

HTTP

HyperText Transfer Protocol. Standard application protocol for exchanging files (text, images, audio, video, etc.) over the Internet.

HTTPS

Secure HyperText Transfer Protocol. Secure version of HTTP: encrypts and decrypts pages containing user requests as well as pages retrieved from a web server.

8.1.9 I**IAP**

Internet Access Provider. See ISP.

IBS

Intelligent Base Station. There are 2 kinds of IBSs: one that can be installed indoors, one outdoors.

ICMP

Internet Control Message Protocol. Network protocol that provides error reports and information on the processing of IP packets.

IMAP4

Internet Message Access Protocol. A protocol of the same type as POP3, the difference being that the messages always stay on the ISP server, even after consultation. IMAP requires continuous access to the server while the messaging service is in use.

IN

Installation Number

IP

Internet Protocol. The main protocol supporting the Internet. IP governs the forwarding and transmission of data packets over supporting multivendor packet-switched networks.

IPSec

Internet Protocol Security. Standard taking network security into account. Protocol used in the implementation of VPNs, and for remote access by connection to a VPN.

ISDN

Integrated Services Digital Network. Standard for the transmission of digital data over telephone cables or other communication vectors.

ISDN-EFM

Integrated Services Digital Network- Emergency Forwarding Module. T0/S0 Forwarding Module.

ISP

Internet Service Provider. Internet Access Provider. A company that provides Internet access for individuals and companies, along with other services, such as web site construction and hosting.

ISVPN

Integrated Services Virtual Private Network. Protocol used in a private virtual digital network; it offers functions such as transfer optimization and the transmission of information such as the name, busy status or diversions.

ISVPN+

Includes metering information in addition to the usual ISVPN services.

ITU

International Telecommunications Union : global coordination body.

8.1.10 K

KEY SYSTEM (mode)

Reflexes terminal operating mode in which the terminal features as many resource keys (RSP) as there are network lines in the system.

8.1.11 L

LAN

Local Area Network. Network of interconnected switches, routers, and servers that share the resources of a processor or server in a relatively restricted geographical area, usually the premises of a company. In the context of the OmniPCX Office, the LAN includes an IP network and provides services to the wired client and to the WLAN client: file server, proxy, main server.

LOUDSPEAKER

External loudspeaker used for broadcasting messages.

8.1.12 M

MANAGER/SECRETARY

Set of specific services (profile, filtering, diversion) between a manager terminal and a secretary terminal.

MEX

Add-on module. Controller board for extension or "add-on" module.

MIPT

Mobile IP Touch. A wireless terminal that is connected to the system through a wired Access Point (AP). The radio connection between the wireless terminal and the AP is specified by the 802.11 family of specifications.

MIX

Mixed equipment board: T0 accesses, analog and Reflexes terminal connection interfaces.

MLAA

Multiple Automated Attendant: Software component used for automatic incoming calls routing via voice guides.

MMC

Man Machine Configuration. Command lines that a user types to the interface of an application to change the parameters of system elements. It can also be in the form of graphic images that the user can select to make changes.

MPPP

Multi-link PPP. A protocol that aggregates bandwidth from a number of links to obtain faster communication speeds.

MULTILINE TERMINAL

Terminal that has several lines for managing several calls at the same time.

8.1.13 N

NAT

Network Address Translation. A service that converts the IP address used on one network into another IP address recognizable by another network. Address translation allows companies to keep their own private IP addresses for internal purposes, while using just one IP address for external communication.

NMC

Network Management Center. Workstation allowing a communication server administrator to remotely manage, administer (storage of call metering tickets for example) and optimize one or more Alcatel-Lucent Om-

niPCX Office Communication Server systems.

NMT

Numbering Modification Table

NNTP

Network News Transfer Protocol. Protocol used by computers to handle messages created in Usenet forums.

8.1.14 O**ODC**

On Demand Communication - Commercial name of On Demand mode.

On Demand mode

This licence mode introduces a “user” definition and the validity of the license in OPEN state is limited and daily checked by the system.

OS

Operator Station. Dedicated Reflexes terminal for answering incoming calls from the public network.

OMC

OmniPCX Office Management Console (formerly PM5). A PC-based management and configuration tool.

8.1.15 P**PAP**

Password Authentication Procedure. Procedure used by PPP servers to validate connection requests.

PASSWORD

Code acting as a password, controlling access to the voice mail unit and the terminal locking function.

PAT

Port Address Translation

PATA

Parallel Advanced Technology Attachment - Hard disk interface bus.

PCBT

PC Based Telephony

PCX (mode)

Mode of operation of Reflexes terminals; in this mode, all the network lines are materialized by general-purpose resource keys (RSB).

PE

Public Exchange. Public central terminal (switch).

PLEASE WAIT MESSAGE

An audio component of the system (or an external device, such as a cassette player) which plays a message or piece of music while keeping an external correspondent on hold.

POP3

Post Office Protocol. Standard Internet protocol for receiving electronic messages. POP3 is a client/server protocol in which the messages are received and hosted by the ISP. When a message is read, it is transferred to the client terminal and is no longer hosted by the ISP.

PPP

Point-to-Point Protocol. Protocol used in communication between two computers using a serial interface (typically a PC connected to a server via a telephone line).

PRA

Primary Rate Access. Board for connecting a T2 digital primary access; the access supports 48 kbps structured as 30 B-channels at 64 kbps for voice and data transmission, and 1 D-channel at 64 kbps for signaling.

PROXY

A proxy server is used as an interface between a user and the external Internet network.

PSTN

Public Switched Telephone Network.

PTN(X)

Private Telecommunications Network (eXchange). A private network consisting of switches and terminals connected together by telephone links.

PWT

Personal Wireless Telecommunications. Corresponds to the DECT standard for the North American countries (especially the US).

8.1.16 Q

QOS

Quality Of Service. Network characteristics (transmission speed, etc.) can be measured, improved and, to some extent, guaranteed in advance.

QSIG

Q Signaling Protocol. Set of standard signaling protocols between the private PBXs of a telephone network (Q reference point) interconnected by digital ATLS.

8.1.17 R

RADIUS

Remote Authentication Dial-In User Service. A client/server protocol that enables remote access servers to communicate with a central server in order to authenticate remote users before allowing them access to the systems or services they have requested.

RAS

Remote Access Server. Remote access server to the system LAN.

RGO, RGI, RGM

General resource keys supporting local and/or external calls, whether outgoing (RGO), incoming (RGI), or mixed (RGM).

RNIS

"Réseau Numérique à Intégration de Services". French equivalent of ISDN.

ROSE

Remote Operations Service Element

RSB

Resource key dedicated to a trunk group (bundle); used for making external outgoing calls on a particular trunk group, and receiving all network calls.

RSD

Resource key for a particular destination; supports local calls for this number if assigned to a speed dial number, incoming calls for the number if assigned to a DDI number, or outgoing calls on a trunk group if assigned to a trunk group.

RSL

Resource key dedicated to a set; supports calls to and from a particular set.

8.1.18 S

SATA

Serial Advanced Technology Attachment - Hard disk interface bus.

S0 BUS

Type of connection for S0 digital terminals (passive short bus, long/short point-to-point bus, extended bus); S0 buses and terminals are connected up via an S0 option embedded in an Alcatel Reflexes terminal.

SELV

Safety Extra Low Voltage. Classification of interfaces in accordance with standards EN60950 and IEC 950.

SIP

Session Initiation Protocol. A signaling protocol for Internet conferencing, telephony, events notification, and instant messaging. SIP initiates for example, call setup, routing and authentication within an IP domain.

SLAN

LAN Switch. Daughter board for mounting on a CoCPU/CoCPU-1/CoCPU-2 board to enable it to communicate with the CPU/CPUe/CPUe-1/CPUe-2.

SLI

Single Line Interface. Board allowing the connection of analog terminals (also known as Z terminals).

SMB

Server Message Block. File sharing protocol which enables a terminal to localize one or more files across the network, and then to open/read/edit/delete them.

SMTP

Simple Mail Transfer Protocol. Standard protocol used for sending and receiving mails.

SPI

Service Provider Interface

SSH

Secure Shell. A UNIX interface protocol for obtaining secure access to remote computers.

SSID

Service Set Identifier. In Wi-Fi wireless LAN computer networking, an SSID is a code attached to all packets on a wireless network to identify each packet as part of that network. The code consists of a maximum of 32 alphanumeric characters. All wireless devices attempting to communicate with each other must share the same SSID. Apart from identifying each packet, the SSID also serves to uniquely identify a group of wireless network devices used in a given "Service Set".

SSL

Secure Socket Layer. Encryption and authentication layer which ensures the authentication, integrity and privacy of the documents distributed by the World Wide Web.

8.1.19 T**TAPI**

Telephony IP. Standard defined by Microsoft.

TCP/IP

Transmission Control Protocol/Internet Protocol. Standard protocol used on the Internet. TCP corresponds to the Transport layer (layer 4) of the OSI model. IP corresponds to the Network layer (layer 3) of the OSI model.

TERMINAL GROUP

Series of terminals grouped under the same directory number. Any call to that number is routed to a free terminal line.

TFTP

Trivial File Transfer Protocol. The simplest network application for transferring files.

TL

(Analog) Trunk Line connecting the system to the public switched network.

TSAPI

Telephony Services API. Standard defined by Novell, based on ECMA's CSTA standard.

8.1.20 U**UAI**

Universal Alcatel Interface. Board used for connecting up Alcatel Reflexes terminals or DECT 4070 IO/EO base stations.

UPS

Uninterruptible Power Supply. Device increasing the system's backup time.

URL

Uniform Resource Locator. Address of a resource (file, program, image, etc.) accessible on the Internet.

UUS

User to User Signaling. Information carried clear end-to-end by ISDN to enable exchanges between network subscribers; the ISVPN protocol is contained within this information.

8.1.21 V

VMU

Voice Mail Unit. The integrated voice server provides a voice mailbox for each user, as well as a general voice mailbox and features such as Personal Assistant, Automatic Attendant and Audiotex.

VoIP

Voice over IP. Term designating voice transmission over a data network using the Internet protocol.

VoWLAN

Voice over WLAN. Term designating voice transmission over a data network using the WLAN.

VPN

Virtual Private Network. Private data network that uses the public telecommunications infrastructure (e.g. the Internet) while maintaining confidentiality by means of tunneling protocols and security procedures.

8.1.22 W

WAN

Wide Area Network. A geographically dispersed telecommunications network. The term WAN is used in contrast to LAN.

WBM

Web-Based Management. Management tools for the system's Internet features.

WINS

Windows Internet Naming Service. In Windows environment, the service that manages the correspondence between client station names and LAN locations relative to their IP addresses.

WLAN

Wireless Local Area Network. A LAN that provides networking using radio frequencies rather than wires for communication.

WLAN association

An association refers to the connection between the WLAN client and the AP. There are two types of associations: passive scanning and active scanning. In passive scanning, APs send out information such as SSIDs and supported rates, while the client passively scans the radio channels for beacons and probe responses. The client then selects an AP. The client keeps scanning even after the association is made (to support roaming). In active scanning, clients send out probe requests. If the probe request contains an SSID, only the APs with the correct SSID will respond. If the probe request contains a broadcast, all the APs will respond.

WLAN client

Any PC, PDA, or phone set that supports the 802.11a and 802.11b/g protocols can be a WLAN client.

8.1.23 X

XMEM

eXpansion Memory. Daughter board of the CPU board that extends the memory capacity and allows a hard disk to be connected.

